



POWERFUL PROTECTION WITH LOW-USE RATES.

Presidio® Fungicide, a unique class of chemistry (FRAC 43), offers growers a low-use rate resistance management tool that combats tough downy mildew and Phytophthora crown and root rot diseases. Fluopicolide, the active ingredient in Presidio, protects outdoor and greenhouse ornamentals through locally systemic and translaminar activity.

KEY BENEFITS

- Preventive with some curative reach-back activity
- Systemic and translaminar movement throughout the plant
- Highly tank mixable

DISEASES CONTROLLED	APPLICATION RATES	APPLICATION NOTES
OUTDOOR FIELD AND CONTAINER GROWN BEDDING PLANTS AND CUT FLOWERS: downy mildew, Phytophthora crown and root rot	60–119 mL/ha	FOLIAR: Apply the spray solution to all plant surfaces and to the point of runoff. DRENCH: Use enough solution to wet the root zone of plants. Make foliar or drench applications on a 14–28 day schedule beginning when disease conditions are favourable, but prior to disease development. PHYTOPHTHORA: For resistance management, Presidio Fungicide must be tank mixed with a labelled rate of another fungicide registered for the target pathogen, but with a different mode of action. Apply Presidio Fungicide in a tank mix with ALIETTE®. Follow the most restrictive use directions of either label.
GREENHOUSE ORNAMENTALS: downy mildew	292 mL/ha	Application should be made prior to disease development. Apply as a broadcast spray in 190–380 L/ha or 19–38 L/1000 m ² . Apply the spray solution to all plant surfaces and to the point of runoff. For resistance management, Presidio Fungicide must be used in a tank mix with TORRENT™ 400SC Agricultural Fungicide, or another registered alternative from a different fungicide group that is effective against the target pest.

PCP NO.	30051	FRAC NO.	43
ACTIVE INGR.	fluopicolide (39.5%)		
FORMULATION	suspension concentrate		
CHEM. FAMILY	benzamides		
PACKAGE SIZE	12 x 946 mL case		
RAINFAST	2 hours		
APPLICATION / SEASON	outdoor: two greenhouse: one		
SURFACTANT NEEDED	no		
KEY USES	outdoor- (field and container grown, bedding plants and cut flowers) and greenhouse-grown ornamentals		



PRESIDIO®

DOWNY MILDEW ON ROSE



DOWNY MILDEW

Downy mildew is caused by a fungus-like water mould (*Pseudoperonospora cubensis*) and is a serious disease that can affect many ornamental crops in Canada. As an obligate parasite it requires a living host to infect. Once established in a region the disease can spread rapidly. Symptoms first appear as small yellow spots on the topside of older leaves. The yellow spots sometimes take on a “greasy” appearance. The center of the lesion will eventually turn tan or brown and die.

Downy mildew primarily over-winters in the southern United States, Mexico, and in greenhouses where susceptible crops are grown year-round – yet it can travel incredible distances. The inoculum builds up on susceptible hosts in the spring. Sporangia are carried by air currents and storms. Sporangia may survive for several days before being deposited on susceptible ornamental crops. Once the disease becomes established, sporangia are disseminated from plant to plant. Primary spread is caused by splashing rains, overhead irrigation and moist air currents. Secondary spread is caused by insects, tools, equipment, the clothing of workers and through the handling of infected plants.

Photo: Jean L. Williams-Woodward, University of Georgia, Bugwood.org

PHYTOPHTHORA ON FRASER FIR IN NURSERY



PHYTOPHTHORA ROOT AND CROWN ROT

Phytophthora root rot is one of the most devastating diseases to field- and container-grown ornamentals – especially to woody ornamentals. When the environmental conditions are favourable, Phytophthora develops very rapidly. Infection occurs when soils are wet and warm (20–30°C). The disease is associated with heavy rainfall, excessive irrigation, and/or poorly drained soil. Frequent, heavy irrigation increases the chance of disease.

Phytophthora root rot decreases the root volume, preventing water and nutrient absorption by the plant. Plant roots often become brittle and turn brownish in color. Wilting is a common symptom as the disease progresses to the plant crown. Initial symptoms include a sudden permanent wilt of infected plants that remain green. The wilt progresses from the base to the ends, before the plant eventually dies.

Resting Phytophthora fungi (chlamydospores and oospores) can survive in diseased roots, crowns, and crop debris in which it then spreads into the soil or potting media to infect new plants. Oospores germinate directly and infect plants or produce sporangia and zoospores. Zoospores are formed and released when the sporangia become saturated in water. Splashing and runoff water are common culprits for spreading Phytophthora. Zoospores may swim for several hours and infect plant tissues.

Photo: USDA Forest Service, USDA Forest Service, Bugwood.org



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