



Ranman® fungicide protects potato yields with a new mode of action to fight pink rot when applied in-furrow.

Ranman® fungicide, marketed by FMC, has a unique mode of action that provides highly effective control and excellent prevention of pink rot when applied in-furrow. Applied as a preventative foliar treatment program, it controls late blight with properly timed applications. The unique chemistry of Ranman controls resistant strains of oomycete fungi including pink rot resistant to Ridomil® or mefenoxam-based fungicides as proven by university studies.

Unlike most fungicides that only control some disease stages, Ranman is active in all stages of oomycete pathogens. It provides excellent protection against diseases caused by oomycetes, especially infection by pathogens of the genera *Phytophthora* and *Pythium*. Ranman is an excellent fungicide for protecting yields.

EXCELLENT FUNGICIDE PROTECTION:

Ranman is a contact fungicide, which is classified as a protectant with anti-sporulating effects and has limited systemic activity. It can be applied by ground, chemigation or aerial application. Ranman is formulated as a suspension concentrate (SC) with 3.33 lb/gal or 34.5% of the active ingredient cyazofamid.

OUTSTANDING ACTIVITY ON OOMYCETES:

- *Phytophthora* (e.g. late blight) – late blight, pink rot

ONLY FUNGICIDE IN FRAC GROUP 21:

The active ingredient in Ranman is cyazofamid, which is the only commercial fungicide in the cyanoimidazole chemical class and is the only fungicide in FRAC Group 21.

UNIQUE MODE OF ACTION:

The biochemical mode of action of the active ingredient inhibits all stages of oomycete pathogens. Its mode of action is new and unique, inhibiting the Q_i site of the cytochrome bc 1 site in the fungal mitochondrial membrane. Ranman provides growers with a much-needed novel mode of action for resistance management as an alternative to existing fungicides with its new respiration target site of C4. There is no documented cross-resistance of Ranman with existing fungicides.

SPECIFIC CROP USE INFORMATION:

Potatoes – in-furrow for pink rot (*Phytophthora erythroseptica*) control: Apply 0.42 fluid ounces of product per 1,000 linear feet of row in-furrow at planting using a minimum of 5 gallons of water per acre. Apply Ranman using a 6 to 8-inch band directly over the seed pieces prior to furrow closure. A side dressing of Ranman in combination with a PO₃ material applied at hilling may be necessary for additional control. Where mefenoxam-resistant strains of pink rot are not present, a full rate of Ranman can be tank mixed with mefenoxam-containing fungicides for additional control.

Potatoes – foliar: Apply foliar for late blight (*Phytophthora infestans*) control using 2.1 to 2.75 fl oz/A. Do not apply more than 10 spray applications per crop, which can total 27.5 fl oz/acre/year. Use higher rates when increased disease pressure is present. Tank mixes with EBDC fungicides such as mancozeb help increase performance, lengthen control and provide more consistency. For late blight tuber rot control, see specific recommendations on product label. Apply with NIS or silicone-based surfactant. All foliar applications of Ranman should be made with a surfactant in accordance with specific label instructions.

RESISTANCE MANAGEMENT:

Ranman® fungicide should be part of a disease management program including alternate sprays of fungicides with a different mode of action. Do not make more than three consecutive applications of Ranman. Follow with at least three applications of fungicides with a different mode of action before applying Ranman again.

Do not use Ranman at reduced rates as incomplete control may occur, promoting potential for development of resistant strains. Rotate other fungicides with a different mode of action or tank mix these fungicides with Ranman to reduce the chance of resistance occurring. Development of resistance cannot be predicted. If a treatment of Ranman is not effective, a resistant strain of fungi may be present. Accordingly, neither Ranman nor other fungicides with a similar mode of action will effectively control the disease. Consult your local state university for alternative recommendations.

GOOD RESIDUAL ACTIVITY:

Its affinity for waxy surfaces of crops ensures superior rainfastness and long residual activity. Residual foliar activity of five days or more can be anticipated depending on disease pressure.

NON-VOLATILE PRODUCT:

Ranman is classified as a non-volatile compound as the active ingredient has a low vapor pressure ($<1.33 \times 10^{-5}$ pascals @ 25°C).

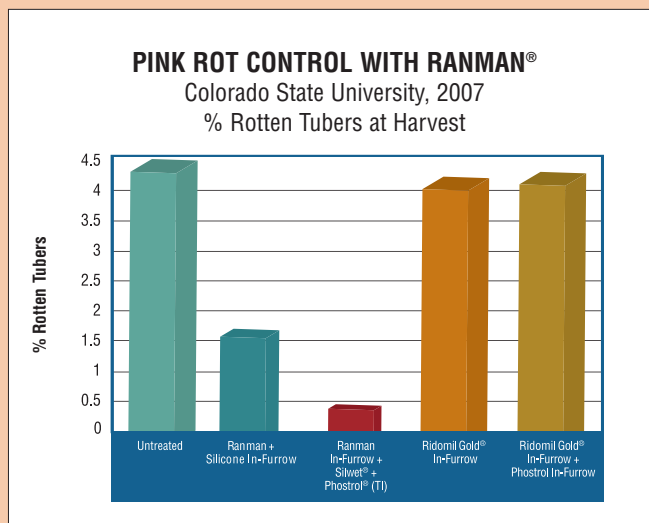
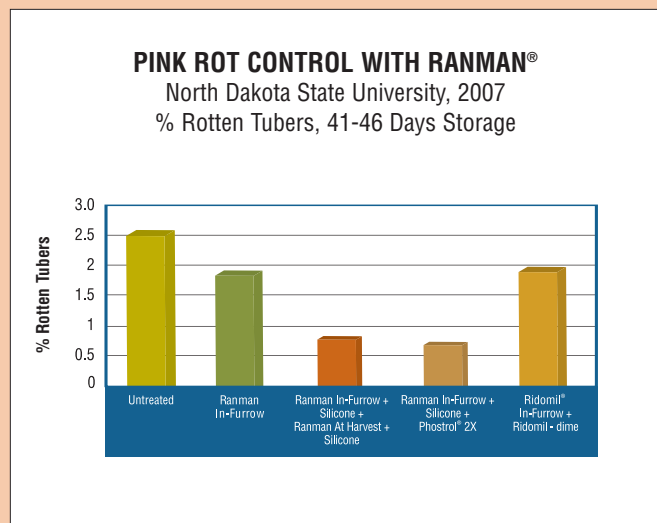
REDUCED-RISK CHEMISTRY:

Ranman is considered reduced-risk chemistry. The active ingredient in Ranman has minimal to moderate acute toxicity in acute oral, dermal and inhalation tests. It is minimally irritating to the eyes and skin, and is a weak dermal sensitizer.

LABELED CROPS AND DISEASES:

Ranman has received a federal label for at-plant pink rot control in potatoes. Ranman also controls late blight on potatoes. Short pre-harvest interval of seven days in potatoes fit common cultural practices. Re-entry interval is 12 hours. Crops not on the label can be planted 30 days after the last application. Ranman is not recommended for use in greenhouses.

PACKAGE SIZES: Available in one-gallon and one-quart plastic jugs



For more information, please contact your FMC Star Retailer.



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