

Rhyme® Fungicide



GRAPES

Convenient Control of Grapevine Trunk Diseases Via Drip Irrigation

Grapevine trunk diseases (GTD) are the most destructive disease complex in grapes, causing significant economic loss due to reduced yields, increased management costs and shortened life span of vineyards. GTD has been identified as the cause of wood rot, cankers and plugging of plants' vascular systems. The destructive disease complex can cause 20% yield loss in a 10-year-old vineyard and 70% yield loss by year 15, shortening a vineyard's typical lifespan of 25-30 years and driving growers to incur replant expenses of around \$22,000 per acre.

University of California Cooperative Extension Plant Pathologist Dr. Akif Eskalen estimates more than 80% of grapevines in California are impacted by GTD. While symptoms are not always visible, current management practices are labor intensive and costly. Methods such as vine surgery, double pruning and the application of wound protectants are also limited in their effectiveness. Foliar and hand-painted fungicides used to protect against GTD offer only a short duration of activity and require reapplication after rain. Their action and duration do not stand up to the disease progression and biology of GTD.

Redefining vineyard life management and wood disease control, Rhyme® fungicide has been issued a 2(ee) recommendation for management of the trunk disease complex in grapes via drip irrigation. When applied via drip, Rhyme fungicide helps control the complex of pathogens responsible for destruction of the xylem tissue that leads to grapevine decline and eventual death. Rhyme fungicide helps stop disease progression and preserves yield potential. Research has shown that early preventative intervention, before symptoms are obvious, can increase the profitable lifespan of an infected vineyard by 26-47%.*

QUICK FACTS:

- Helps control the most challenging diseases in grapes: powdery mildew and GTD.
- Demonstrates inside-out protection with flutriafol, the active ingredient in Rhyme fungicide.
- Flutriafol offers fast penetration and translocation throughout the plant, delivering both internal and foliar disease control throughout the growing season.
- Highly systemic activity combats disease progression as pathogens enter the plant.
- The only grape fungicide labeled for application via drip irrigation.
- Drip application for control of GTD can replace costly practices like foliar application, hand-painting protectant on pruning wounds and double pruning.

* Research from development and university testing across many locations. For a list of such studies, please contact your FMC representative.



SINGLE RHYME® FUNGICIDE INJECTIONS - % DISEASE INFECTION*

(location 2, 5-year-old vineyard)

WOOD AGE	RHYME FUNGICIDE	TOPSIN® M FUNGICIDE AND RALLY® FUNGICIDE
1-Year-Old	No pathogen	No pathogen
2-Years-Old	60% <i>Botryosphaeria</i>	60% <i>Botryosphaeria</i>
3-Years-Old	60% <i>Botryosphaeria</i>	80% <i>Botryosphaeria</i>

Rhyme fungicide delivered the same control of *Botryosphaeria* as the wound protectants in 2-year-old wood and offered 20% greater reduction of *Botryosphaeria* in 3-year-old wood.

Injection: Rhyme fungicide injected via drip irrigation for two hours.

Samples were collected in the first week of February 2019 prior to pruning.

Rhyme fungicide injected after harvest during the fall nutrient application.

MULTIPLE RHYME FUNGICIDE INJECTIONS - % DISEASE INFECTION*

(location 1, 15-year-old vineyard)

WOOD AGE	RHYME FUNGICIDE	TOPSIN M FUNGICIDE AND RALLY FUNGICIDE
1-Year-Old	16% <i>Botryosphaeria</i> ; 16% <i>Phomopsis</i>	16% <i>Botryosphaeria</i> ; 33% <i>Phomopsis</i>
2-Years-Old	50% <i>Botryosphaeria</i> ; 33% <i>Phomopsis</i>	83% <i>Botryosphaeria</i> ; 33% <i>Phomopsis</i>
3-Years-Old	33% <i>Botryosphaeria</i> ; 66% <i>Phomopsis</i>	100% <i>Botryosphaeria</i> ; 66% <i>Phomopsis</i>

Compared to wood protectants, Rhyme fungicide delivered superior control of *Botryosphaeria* in 2-year-old and 3-year-old wood and provided equivalent control of *Phomopsis*.

Injection: Rhyme fungicide injected via drip irrigation for two hours.

Samples were collected in the first week of February 2019 prior to pruning.

Rhyme fungicide injected at 6-10" of new growth, June 15 and after harvest.

*Disease incidence recovered on plated samples.

Application Instructions:

Applying via drip at root flush in spring and fall maximizes wood disease management and ensures protection prior to pruning while providing outstanding early powdery mildew protection.

- Apply Rhyme fungicide at 5 fl. oz./A via drip in the spring at induction and initiation when new growth is at 4-8 inches.
- Follow 14 days later with a second 5 fl. oz./A application of Rhyme fungicide via drip.
 - These two applications will provide early and long-lasting protection against powdery mildew infection.
- Before veraison and after harvest, make a third and fourth drip application, both at the 5 fl. oz./A rate. Rhyme fungicide may be applied with fall nutrition.

Application Guidelines:

Re-entry Interval (REI): Five days for girdling or turning of grapes; 12 hrs. for all other activities.

Preharvest Interval (PHI): 14 days

Product Use Rate: 5 fl. oz./A

Maximum amount of Rhyme fungicide per season: Do not apply more than six applications per year or 30 fl. oz./A per year.

Label:

Active Ingredient: Flutriafol (Group 3)

Mode of Action Classification: Demethylation inhibitors; blocks the synthesis of ergosterol in sensitive species of fungi.

To learn more about Rhyme fungicide, talk to your local FMC representative or visit [FMCAGUS.COM/RHYME](https://www.fmcagrus.com/rhyme).