

HatchTrakSM



Grape Disease Control Portfolio

Four FRAC Modes of Action to Build Your Seasonal Grape Disease Protection Program Around Early- to Mid-Season Fungicides

KOVERALL[®]

Active Ingredient	mancozeb
FRAC Group:	M3
Labeled Diseases:	Black rot Bunch rot Phomopsis Downy mildew
Use Rate:	1.5 – 4 lbs./A (east of Rocky Mts.)
Maximum Use Per Acre Per Season:	24 lbs. Koverall fungicide (18 lbs. ai/A mancozeb)
PHI:	66 days

Koverall[®] Fungicide Key Attributes

- ◇ Multisite, broad spectrum
- ◇ Preventive, contact activity
- ◇ Excellent tank mix partner for IPM & resistance management due to protectant qualities.
- ◇ Excellent for early season black rot and phomopsis protection especially in combination with systemic fungicides.

Application Recommendations

- ◇ Begin application at 0.5" to 1.5" shoot growth. Repeat at 3-5" then 8-10" shoot length.
- ◇ Combine with a systemic and/or residual fungicide for forward protectant activity.
- ◇ Choose spray volume to ensure complete coverage.

SOVRAN[®]

Active Ingredient	kresoxim-methyl
FRAC Group:	11
Labeled Diseases:	Powdery mildew Black rot Phomopsis cane and leaf spot Downy mildew Botrytis bunch rot (suppression)
Use Rate:	3.2 – 6.4 oz./A
Maximum Use Per Acre Per Season:	25.6 oz./A
PHI:	14 days

Sovran[®] Fungicide Key Attributes

- ◇ Excellent crop tolerance.
- ◇ Excellent early season tank mix partner with Koverall fungicide for black rot and phomopsis control.
- ◇ Very good tank mix partner in combination with other labeled fungicides for downy mildew control and to aid in botrytis bunch rot suppression.

Application Recommendations

- ◇ Begin applications at bud break and continue using a 14-day interval.
- ◇ Use with organosilicon surfactants may cause temporary, cosmetic and short term injury to newly emerging leaves.

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NE Technical Service Representative
Chris Leon
(601) 927-9410
christopher.leon@fmc.com

Contact your local FMC Marketing Manager for more information

Michael Myers
(717) 304-8957

Tyler Williams
(270) 403-1467

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Early- to Late-Season Fungicides

RHYME FUNGICIDE

Active Ingredient	flutriafol
FRAC Group:	3
Labeled Diseases:	Powdery mildew Black rot
Use Rate:	4 – 5 fl. oz./A
Maximum Use Per Acre Per Season:	30 fl. oz./A (0.488 lb ai/A)
PHI:	14 days

Rhyme™ Fungicide Key Attributes

- ◇ Superior triazole fungicide with top of class, highly systemic properties. Moves to growing points combined with long residual control.
- ◇ Excellent crop safety on Concord grapes.
- ◇ Single active ingredient for ease of tank mixing with other fungicides such as downy mildew fungicides or SDHI fungicides for broader spectrum and resistance management.

Application Recommendations

- ◇ Begin application at 6-10" shoot growth for powdery mildew control.
- ◇ Rotate with another non-Group 3 fungicide for resistance management.
- ◇ Use a 14 to 21 day retreatment interval for heavy and light disease pressure, respectively.

TOPGUARD^{EQ} FUNGICIDE

Active Ingredients	flutriafol + azoxystrobin
FRAC Group:	3 + 11
Labeled Diseases:	Powdery mildew Black rot Phomopsis cane and leaf spot Downy mildew Botrytis bunch rot (suppression)
Use Rate:	5 – 8 fl. oz./A
Maximum Use Per Acre Per Season:	34 fl. oz./A (0.488 lb ai/A flutriafol) (1.5 lb ai/A azoxystrobin)
PHI:	14 days

Topguard® EQ Fungicide Key Attributes

- ◇ Perfect combination of 2 systemic active ingredients.
- ◇ Ratio is optimized based on key attributes of each active ingredient.
- ◇ Combination is perfect for black rot and early season powdery mildew control.

Application Recommendations

- ◇ For black rot control, begin application at 0.5" to 1.5" shoot growth. Repeat at 3-5" and then 8-10" shoot length.
- ◇ Combined with Koverall fungicide early for premium protectant and systemic control with long lasting residual.
- ◇ Use adequate spray volume to ensure complete coverage.
- ◇ Avoid use in proximity to apples due to phytotoxicity concerns due to azoxystrobin component.

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FRACTURE[®] FUNGICIDE

Active Ingredient	BLAD protein
FRAC Group:	BM01
Labeled Diseases:	Botrytis gray mold Powdery mildew Sour rot suppression (2ee label ¹)
Use Rate:	20.5 – 36.6 fl. oz./A (0.34 – 0.6 lbs ai/A)
Maximum Use Per Acre Per Season:	183 fl. oz./A (3 lb ai/A)
PHI:	1 day

¹2EE available for use in CT, DE, ID, IL, IN, KY, ME, MD, MI, NH, NJ, NY, OH, OR, PA, RI, VT, VA, WV, WA, and WI

Fracture[®] Fungicide Key Attributes

- ◇ Biological, multi-site mode of action.
- ◇ Preventive and protectant activity.
- ◇ Best use in a rotational program with other botrytis fungicides.
- ◇ Quick rainfastness with 2 to 4 hours drying time.

Application Recommendations

- ◇ Non-systemic protectant; therefore, thorough spray coverage is necessary for optimum control.
- ◇ Use of a nonionic surfactant will aid in coverage.
- ◇ Botrytis gray mold – Begin applications when conditions favor disease development. Typically at early bloom, prior to bunch closure and during veraison and ripening.
- ◇ Sour rot (2ee label for suppression) – Begin applications at veraison or 8 to 14% sugar concentration.
- ◇ Research has shown Fracture fungicide tank mix combinations with Mustang[®] Maxx insecticide are effective in reducing insect injury which acts as entry points for botrytis and sour rot infections.

888-59-FMC-AG FMCCROP.COM

Always read and follow label directions. NOTE REGARDING RESTRICTED USE PESTICIDES: **Anthem ATZ herbicide; Athena insecticide, Brigade 2EC Insecticide/Miticide, Brigade WSB Insecticide/Miticide, Brigadier Insecticide Capture 3RIVE 3D insecticide, Capture LFR Insecticide, Declare insecticide, Hero Insecticide, Mustang Insecticide, Mustang Maxx Insecticide, Pounce 25WP Insecticide, Stallion Brand Insecticide, Ethos XB Insecticide/Fungicide and Gladiator Insecticide/Miticide are Restricted Use Pesticides.** VGR Soil Amendment is **not a pesticide**. NOTE FOR CALIFORNIA: Accurate Extra herbicide, Aim EC herbicide, Anthem herbicide, Anthem ATZ herbicide, Anthem Flex herbicide, Anthem Maxx herbicide, Authority Assist herbicide, Authority Elite herbicide, Authority First DF herbicide, Authority Maxx herbicide, Authority MTZ DF herbicide, Authority XL herbicide, Cadet herbicide, Chisum Herbicide, Command 3ME microencapsulated herbicide, Crusher Herbicide, Edition Broadspec herbicide, Edition Tankmix Herbicide, Marvel herbicide, Nimble Herbicide, Nuance Herbicide, Preemptor SC, Report Extra Herbicide, Solstice herbicide, Spartan 4F herbicide, Spartan Charge herbicide, Spartan Elite herbicide, Zeus Prime XC herbicide, Zeus XC herbicide, Capture 3RIVE 3D insecticide, Ethos XB Insecticide/Fungicide, Hero Insecticide, Mustang Maxx Insecticide, Topguard Fungicide Specialty Crops fungicide, Display cotton harvest aid **are not registered for sale or use in California.** Beleaf and Carbine are trademarks of Ishihara Sangyo Kaisha, Ltd. Cercobin is a trademark of Nippon Soda Co., LTD. Sovran is a registered trademark of BASF. FMC, 3RIVE 3D, Accurate, Aim, Anthem, Athena, Authority, Brigade, Brigadier, Cadet, Capture, Chisum, Command, Crusher, Declare, Display, Edition, Ethos, Fortix, Fracture, Fyfanon, Gladiator, Hero, Koverall, LFR, Marvel, Mustang, Nimble, Obey, Pounce, Preemptor SC, Report, Rhyme, Rovral, Shark, Solida, Solstice, Spartan, Stallion, Topguard, Topguard Terra and Zeus are trademarks and HatchTrak and "Investing in farming's future" are service marks of FMC Corporation or an affiliate. ©2016 FMC Corporation. All rights reserved.

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