

GRAPE & WINE / 20 August 2013



Anthracnose. Photo: A. Schilder.



Anthracnose shotholing in leaves. Photo: A. Schilder.



Anthracnose. Photo: A. Schilder.



Anthracnose lesions. Photo: A. Schilder.

in wine grapes. Contact me (schilder@msu.edu) or Jerri Gillett (gillett@msu.edu; 517-355-7539) if you need a (free) diagnostic lab test done for suspected virus symptoms.

–Annemiek Schilder, MSU Department of Plant, Soil and Microbial Sciences

BOTECTOR, A NEW BIOFUNGICIDE FOR CONTROLLING BUNCH ROTS IN GRAPES

Botector (*Aureobasidium pullulans*) is a new, yeast-based biological control product (marketed by Westbridge Agricultural Products in Vista, CA) for

control of *Botrytis* bunch rot in grapes. The product is also labeled for control of *Botrytis* gray mold in strawberries, and *Botrytis*, *Monilinia* and storage diseases in pome fruit and stone fruit. Botector consists of two strains of *Aureobasidium pullulans*, a yeast that is ubiquitous in the environment and naturally occurs on plant surfaces. Botector works through competitive exclusion in that the yeast competes with other microbes for nutrients and space, thereby inhibiting *Botrytis cinerea* from colonizing infection sites on the berry surface. The product leaves no residue, does not affect fermentation or wine quality, and is harmless to bees and beneficial insects. Botector performed well in a fungicide efficacy trial in Michigan in 2011 under moderately high disease pressure (see Table 1). We also observed good efficacy against foliar powdery mildew (83% control with

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Table 1. Efficacy of dormant and seasonal Botector sprays for control of Botrytis bunch rot in 'Aurore' grapes in Lawton, MI, in 2011 (note that the recommended rate for Botector is 10 oz per acre).

Treatment, rate/A	Application timing ^z	Botrytis bunch rot on cluster						
		Incidence (%)		Severity (%)		Overall severity (%)		Control [%] ^x
Untreated.....		78	a ^y	37.8	a	29.5	a	
Sulforix 1 gal.....	1	63	b	28.8	b	18.4	a	[37.6]
Botector 5.7 oz.....	2, 3, 4, 5	52	c	11.8	c	6.0	b	[79.7]
Elevate 1 lb Regalia 2 qt + CoHere 0.25%	2, 4, 3, 5	42	cd	5.9	cd	2.5	c	[91.5]
Pristine 38WG 18.5 oz Vanguard 75WG 10 oz.....	2, 4, 3, 5	34	d	3.2	d	1.1	d	[96.3]
^z Spray dates: 1 = 9 May (dormant), 2 = 14 Jun (bloom), 3 = 29 Jun (pea-sized clusters), 4 = 18 Jul (bunch closure), 5 = 8 Aug (veraison), 2011.								
^y Column means followed by the same letter are not significantly different according to Fisher's Protected LSD test ($P \leq 0.05$).								
^x Bracketed values denote percent control relative to the untreated check.								

Botector versus 99% control with Pristine fungicide) in that trial, so that would be an added benefit.

The product has to be applied preventatively to the cluster zone to be effective. The recommended rate according to the 2(ee) label is 5–10 oz per acre; 5 oz would be sufficient under normal conditions whereas 10 oz is recommended under high disease pressure. Up to three sprays are recommended between the end of flowering and harvest, in a sufficient spray volume to assure adequate coverage. Since the product contains a live organism, it ideally needs 2 days to fully colonize the plant surface it is sprayed on, so apply the product ahead of anticipated infection conditions. There is no risk of resistance development, even with frequent applications. The pre-harvest interval is 0 days and the restricted entry interval is 4 hours. Do not apply this product aerially or through any type of irrigation system. Ensure that the temperature of the tank mixture is below 86°F (30°C). Agitate the mixture before and during application. Use the spray mixture within 8 hours after tank-mixing. Do not mix Botector with other chemicals or fertilizers during application. Avoid freezing of the stored product. Botector is suitable for use in organic production. The product can be obtained through Hamilton Ag and Wilbur Ellis and

possibly other distributors in the state and the price will probably be between \$30–40/acre at the 5-oz rate.

–Annemiek Schilder, MSU Department of Plant, Soil and Microbial Sciences