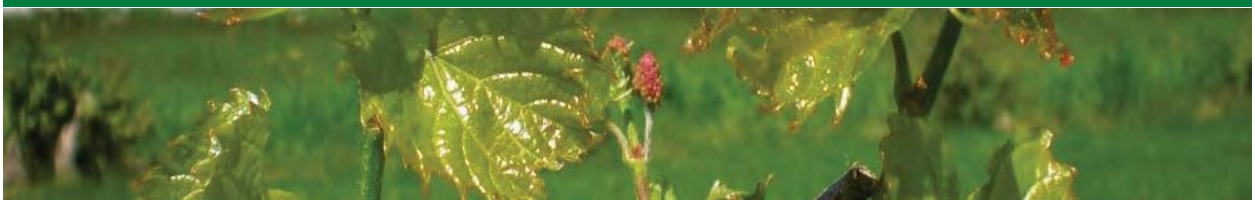
Vinews
Viticulture Information News, Week of 6 July 2015
Columbia, MO



Pestalotiopsis sp. Fruit Rot

A couple of weeks ago I reported on a single Norton vine that had died of a trunk disease that was attributed to *Pestalotiopsis* sp. (see here). *Pestalotiopsis* sp. can cause trunk disease as well fruit rots. In 2012, 15 different fungal taxa associated with different vascular symptoms in grapes were found in a field survey in grape growing regions in Missouri and Arkansas (Urbez-Torres et al. 2012). Two of these fungal taxa were identified as *Pestalotiopsis* sp. and *Pestalotiopsis* uvicola. These two fungal taxa were pathogenic in Vignoles, Chambourcin, Norton, and Traminette. Although a number of organisms can cause fruit rots of grapes, *Pestalotiopsis* sp. is often not one that is reported widely in the field or in the literature. Honestly, I am not sure if *Pestalotiopsis* sp. should be classified as a bitter rot, ripe rot or simply just lumped in the catch all bin labelled summer rots.

Figure 1. Norton cluster with berries infected with *Pestalotiopsis* sp.

Regardless of where to place *Pestalotiopsis* sp., like most summer rots it prefers abundant warm wet conditions. We certainly have had those conditions in May, June, and into the beginning of July. What is interesting and surprising about *Pestalotiopsis* sp. symptomology that I observed last week is that the disease symptoms were highly expressed. The berries were brown, some berries were mummified, and the browning seemed to be beginning at the pedicel berry junction (Figure 1). Typically grape berries infected with a summer rot before veraison results in the disease organism going "dormant" and then becoming active once the berries begin to ripen. I checked a few Norton berries for brix and they were 3.0 to 3.2 brix. Certainly a long way off from the beginning of veraison.

Figure 2. Disease symptoms of *Pestalotiopsis* sp. above resemble disease symptoms of black rot.

The disease symptoms of *Pestalotiopsis* sp. looks similar to black rot (Figure 2). In fact, the first picture that came to me via email had all the symptoms of black rot. *Pestalotiopsis* sp. symptoms appear as reddish brown water-soaked lesions on the grape berries and progress into mummy berries. The infection on most berries appeared to be starting at the berry and pedicel junction.

Whereas with black rot infections the disease process typically begins where free water is retained on the berry the longest and this is usually on the end of the grape opposite the pedicel. While evaluating the disease symptoms in the vineyard it became apparent that the infected berries were shattering and a small percentage of uninfected green berries were cracked. Examining the infected berries with a 10X hand lens revealed no pycnidia that suggested that black rot likely was not the major disease problem. However, I did find a few berries and leaves with black rot, but very few.

Figure 3. Fruiting bodies of P*estalotiopsis* sp. on Norton grape berry after 24 hours of warm, moist incubation

With the aid of Patti Hosack of the MU Plant Diagnostic Clinic, whole clusters of Norton expressing disease symptoms were moist-incubated for 24 hours. The infected mummy berries produced fruiting bodies (acervuli) (Figure 3) that contained conidia (Figure 4) of *Pestalotiopsis* sp.. The literature is very mixed on the classification of *Pestalotia*, but the 5-celled conidia of the specimens we observed would be classified as a *Pestalotiopsis* sp..

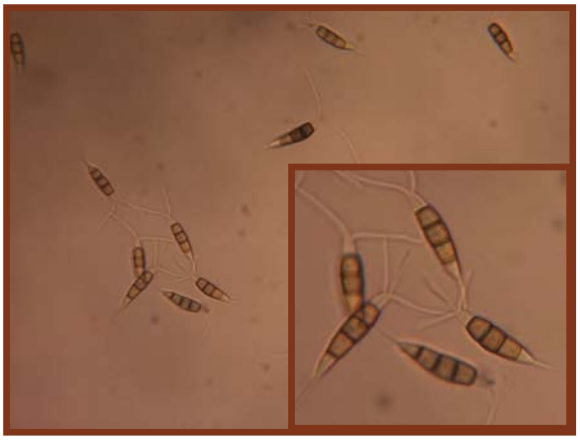


Figure 4. Conidia of *Pestalotiopsis* sp. The conidia are five-celled (see inset photograph)

If you are unsure if you are looking at black rot or *Pestalotiopsis* sp. symptoms on infected clusters simply put some mummy berries in a zip-lock bag overnight. In the bag put a moistened paper towel. Place the bag on top of the refrigerator which will add a little heat to speed up the incubation. Observe the berries with a 10X hand-lens after 24 hours and look for the fruiting structures. Black rot will have pycnidia (see here) and *Pestalotiopsis* sp. will have acervuli (Figure 3).

To manage summer rots, Wayne Wilcox from Cornell suggests using strobilurins (Abound, Flint, Pristine, Sovran) and Captan. Mancozeb also will control summer rots but the long pre-harvest interval precludes use this late in the growing season.

References

Urbez-Torres, J. R., F. Peduto, R. K. Striegler, K. E. Urres-Romero, J. C. Rupe, R. D. Cartwright, and W. D. Gubler. 2012. Characterization of fungal pathogens associated with grapevine trunk diseases in Arkansas and Missouri. Fungal Diversity 52:169-189.

Phenology from Gasconade County

Chambourcin on July 6, 2015. Gasconade County

Vignoles on July 6, 2015. Gasconade County

Cumulative Growing Degree Days for the Seven Grape Growing Regions of Missouri from April 1 to July 6, 2015.

Region	Location by County	Growing Degree Days[1]		
		2015	2014	30 Year Average
Augusta	St. Charles	1645	1599	1545
Hermann	Gasconade	1557	1516	1483
Ozark Highland	Phelps	1708	1667	1598
Ozark Mountain	Lawrence	1670	1624	1575
Southeast	Ste. Genevieve	1716	1673	1602
Central	Boone	1546	1488	1510
Western	Ray	1503	1542	1479

[1]Growing degree days at base 50 from April 1 to July 6, 2015. Data compiled from Useful and Useable at https://mygeohub.org/groups/u2u/tools . Click on link below to determine growing degree days in your area.

To determine the number of growing degree days accumulated in your area since April 1, click this link Search for GDD at your location using this tool.

Please scout your vineyards on a regularly scheduled basis in an effort to manage problem pests. This report contains information on scouting reports from specific locations and may not reflect pest problems in your vineyard. If you would like more information on IPM in grapes, please contact Dean Volenberg at 573-882-0476 or volenbergd@missouri.edu

Grape Berry Moth (GBM) Update

We are still a ways off from the third generation of GBM. As of July 6, 1,409 (Cape Girardeau County), 1,267 Boone County, and 1,170 (Gentry County) growing degree days have accumulated since May 15 at base 47. A total of 1,620 growing degree days need to accumulate before egg laying begins for the third generation.

Egg laying of the second generation likely started in Cape Girardeau on June 11, Boone County on June 20th and Gentry County on June 23.

Grape berry moth adult captured in a pheromone trap.