



**Vinews**  
**Viticulture Information News, Week of 30 May 2016**  
**Columbia, MO**



**Trunk Diseases**

As vines age there is increased likelihood that trunk diseases will become a problem. There are a number of pathogens that can cause trunk diseases. Throughout Missouri and Arkansas 15 fungal taxa have been identified as trunk disease pathogens. Last year, [\*Pestalotiopsis sp.\*](#) made its appearance as a fruit rot in Vignoles and Traminette and potentially other grape cultivars. This pathogen causes both trunk disease as well as fruit rots. Within Missouri and Arkansas, three economically important trunk diseases have been identified and include; *Botryosphaeria* canker, *Eutypa* dieback and esca. Most all trunk diseases cause a slow steady decline of infected vines and eventually cause vine death as the canker invades the vascular tissue.

Mid-May to early June is the period when trunk disease become readily visible. Most growers first recognize that shoots are stunted compared to relatively normal growth.



Grape vine showing symptoms of a trunk disease. Notice stunted shoots compared to relatively normal shoots on far left in picture.



Trunk of plant above showing vascular and pith discoloration that suggests a trunk disease pathogen is present.

Additionally spurs fail to bud out leading to a lot of “blind wood” along the cordon. Some cultivars will have foliar symptoms whereas other grape cultivars are void of foliar symptoms. The name “Trunk diseases” is a bit of a misnomer as trunk disease impact any of the perennial wood of the vine and include the spurs, cordons, and of course the trunk.

## **Eutypa**

### Symptomology

The typical symptoms of *Eutypa* dieback *Eutypa lata* are stunted shoots with cupped chlorotic and necrotic leaves. These symptoms are most apparent from mid-May to early June in Missouri. To further diagnose *Eutypa* vines can be dissected by cross cutting across the trunk and cordon. Look for the appearance of a brown wedge shaped canker.

### Infection

*Eutypa* infects by entering fresh pruning wounds during rain events. These infections can occur during the vines dormant season after pruning or when drastic pruning is undertaken to change the training system. The infection process results in the invasion of the water conducting xylem vessels. Further damage to the vine occurs by the fungus excreting enzymes that cause wood decay.



Vignoles with stunted shoots on the right cordon suggesting a trunk disease is present.



Cupped necrotic leaves of Vignoles suspected of being infected with a trunk disease pathogen.

## Management

Whole vines infected with *Eutypa* and dead wood should be removed from the vineyard. Removal of wood infected with *Eutypa* removes inoculum sources. Besides grapes, more than 80 plant species have been reported as potential hosts of *Eutypa lata*. Instead of trying to remove other potential hosts surrounding the vineyard, it is more feasible to focus on your dormant pruning timing. Infections from *Eutypa lata* can be reduced by pruning later in the season. Pruning wounds are less susceptible to infection during warm weather. Large pruning cuts are more susceptible to infection compared to small cuts. Delaying large pruning cuts to when warmer weather prevails lessens the potential for infection.

## **BOTRYOSPHAERIA CANKER**

### Symptoms

Similar to *Eutypa*, *Botryosphaeria* causes wedge-shaped cankers in trunks and cordons. In addition, *Botryosphaeria* also can cause dead spur positions. Foliar symptoms can be present or absent. Wedge shaped cankers are not a good distinguishing characteristic of *Botryosphaeria*. It is not unusual to have *Botryosphaeria* and *Eutypa* present at the same time. A major distinguishing characteristic of *Botryosphaeria* canker is the absence of stunted chlorotic spring growth.

### Infection

*Botryosphaeria* canker is often the result of a complex of different species of disease pathogens. Similar to *Eutypa* dieback, *Botryosphaeria* infects vines through fresh pruning cuts.

### Management

Similar to *Eutypa* dieback, the following management tools are recommended:

- Identify vines in the vineyard and mark for removal
- Remove infected portions of vine 4 to 6-inches below infected site and retrain new shoots
- During pruning avoid large pruning cuts
- Do not prune during wet weather
- Consider double pruning if pruning during wet weather i.e. leave extra nodes and remove when warm dry weather prevails
- Remove and destroy all infected vine materials from vineyard
- Fungicides applied within 24 hours onto pruning cuts to reduce the potential for infection. See [Rally 40WSP](#) label and [Mettle 125ME](#) label

## Herbicide Drift

The past couple of weeks I have had a lot of inquiries about grape injury from herbicide drift. Yesterday, I had the opportunity to consult with a couple of growers that have experienced herbicide drift. They both wanted to know what they could do without making a formal complaint to MODAG. In other words, what proactive advice could they give their neighbors that would result in decreasing the potential for herbicide drift. Below are my suggestions for reducing drift onto vineyards. Hopefully these will be conversation starters.



Vineyard herbicide drift incident. Symptoms suggest that damage is the result of phenoxy herbicide (s).

The important thing for you to stress to neighbors going forward.

- When neighbors spray their fields the wind should not be blowing towards your vineyard
- Wind speed during application should be below 5 mph
- A drift retardant should be used
- If 2,4-D is used the formulation should be an amine formulation and never an ester formulation. Try to dissuade neighbors from using any phenoxy herbicides.
- The air temperature should be below 85° F (This is what most 2,4-D and dicamba labels state). However vapor formation of a 2,4-D ester formulation will triple with temperature increases from 60° to 80° F
- The sprayer should have air induction nozzles (course spray droplets) that reduce the potential for drift
- Before spraying the weather should be consulted to determine if there is a chance of a temperature inversion
- Weather conditions on the day of application that are conducive to the herbicides drying rapidly will decrease the potential for off-target herbicide movement
- The boom height should be minimized between the sprayer nozzle and the target to minimize drift



Missouri will be hosting the 41st American Society of Enology and Viticulture-Eastern Section (ASEV-ES) Conference and Symposium. The meeting will be in St. Louis, Missouri in July 18-21, 2016. The meeting includes a tour of Missouri wineries on the 18<sup>th</sup>, research updates on the 19<sup>th</sup> and 20<sup>th</sup> and the 21<sup>st</sup> will be dedicated to an industry oriented symposium on Adapting and Adopting: Future of Grape and Wine Production. Talks will be given by international experts relating to a wide range of viticulture and enology topics. Registration and additional information can be found at [asev-es.org](http://asev-es.org)

Early Bird Registration Until July 1st



## **MGGA Viticulture Field Day & Annual Meeting Missouri Vintners Association Annual Meeting**

**June 14, 2016**

***Stone Hill Winery and  
Restaurant Sherry House***

1110 Stone Hill

Highway Her-

mann, MO

65041

800-909-9463

[www.stonehillwinery.com](http://www.stonehillwinery.com)

### **Featured Educational Presentations**

#### **How Important Is Canopy Management?**

Is it sometimes OK to skip or is it truly essential for wine quality and the health of your vineyard? Dr. James Wolpert, the recipient of numerous awards and author of more than 50 scientific and technical publications, will detail the importance of managing vineyard canopy. Jim worked as a Viticulture Extension Specialist where he was responsible for applied research and grower education programs for winegrapes in northern California. He later served as Chair of the Department of Viticulture & Enology for ten years where he held the title of Marvin Sands Endowed Department Chair. Jim retired from UC Davis in 2013, after 30 years of service and now lives in Hermann, Missouri.

#### **Grape Berry Development, Composition & Viticulture Practices**

Winegrape berry development is the most important process taking place in the vineyard during the growing season, a process that brings together the concerns of both the grower and the winemaker. Good-quality wine can only be made from good-quality grapes. While several factors impact grape quality, vineyard management practices used by the grower can have a very significant impact on berry development and composition. Andy Allen will help us review grape berry development and discuss how vineyard management affects fruit composition. With over 15 years of experience in viticulture, Andy has worked with grape growers throughout the Midwest and Southeast. He currently serves as Chair of the Viticulture and Enology Program at Arkansas Tech University-Ozark Campus.

#### **Worker Protection Standards for Vineyard Workers: What You Need to Know**

The Worker Protection Standard (WPS) is a regulation issued by the U.S. Environmental Protection Agency to protect people who are exposed to pesticides through their work. Shawn Hackett, FIFRA Project Officer will address these standards and changes coming in the future.

**Also Don't Miss!**

Research Updates with Dr. Misha Kwasniewski, Assistant Research Professor & Enology Program Leader at the Grape & Wine Institute; Programs for Vineyards from the USDA Farm Services; News & Updates from the Missouri Wine and Grape Board and more!

**Register Online or fill out and mail in the form below**

**Registration Fee:** \$30 per person (includes lunch)

**Deadline:** To register by mail you must mail in form by May 27th, 2016. Online registration until Please let us know of any special dietary needs.

Attendee(s) Business Name Address, City, State

E-mail Phone

**Directions:** <http://www.stonehillwinery.com/visit/hermann/directions-hours-hermann>

**Hermann Lodging:** <http://visithermann.com/plan-your-getaway/lodging/>

**Online registration:** <http://www.brownpapertickets.com/event/2552306>

If you choose to register by mail please make checks payable to Missouri Grape Growers Association.

**Send registration and fee to:** Missouri Grape Growers Association Linda Koch

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New Bloomfield, MO  
65063 573-491-8796  
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## Cumulative Growing Degree Days for the Seven Grape Growing Regions of Missouri from April 1 to May 30, 2016.

Region	Location by County	Growing Degree Days <sup>1</sup>		
		2016	2015	30 Year Average
Augusta	St. Charles	689	800	709
Hermann	Gasconade	677	763	702
Ozark Highland	Phelps	739	841	749
Ozark Mountain	Lawrence	715	748	758
Southeast	Ste. Genevieve	706	825	756
Central	Boone	673	736	702
Western	Ray	622	675	650

<sup>1</sup>Growing degree days at base 50 from April 1 to May 30, 2016. 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](mailto:volenbergd@missouri.edu)