Grape Black Rot Advisor

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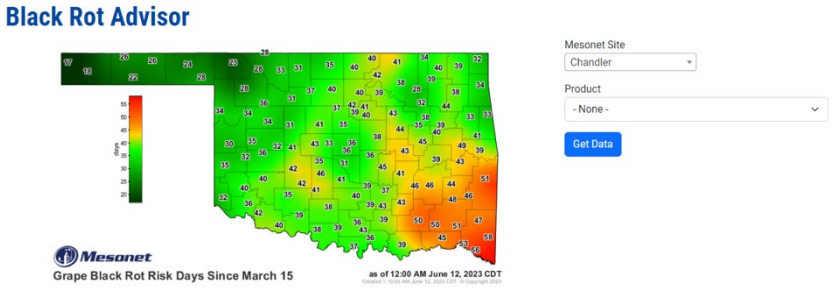
In Oklahoma, black rot caused by the fungus *Guignardia bidwellii*, is the most important foliar disease of grapes. Fungicides used to treat black rot should be used preventatively when weather is predicted to be favorable for infection and disease development. Preventative applications of fungicides should begin when shoots are 3-10 inches in length and continue at regular intervals when weather conditions are favorable for disease. The most critical time for application of fungicides is just prior to bloom until at least 4-to-6 weeks post bloom.

The Mesonet Grape Black Rot Advisor is an online weather-based management tool that identifies times when the risk of black rot infection is high. It is seasonal and operates between March 15 and September 15. The advisor is based on the accumulation of leaf wetness hours. A leaf wetness hour is assumed to occur each hour when the relative humidity is ≥ 85%. “Grape Black Rot Risk Days” are determined when a certain number of continuous leaf wetness hours occur adjusted for air temperatures (Table 1).

Table 1. Hours of continuous leaf wetness required for an infection by the fungus that causes black rot at select temperatures.

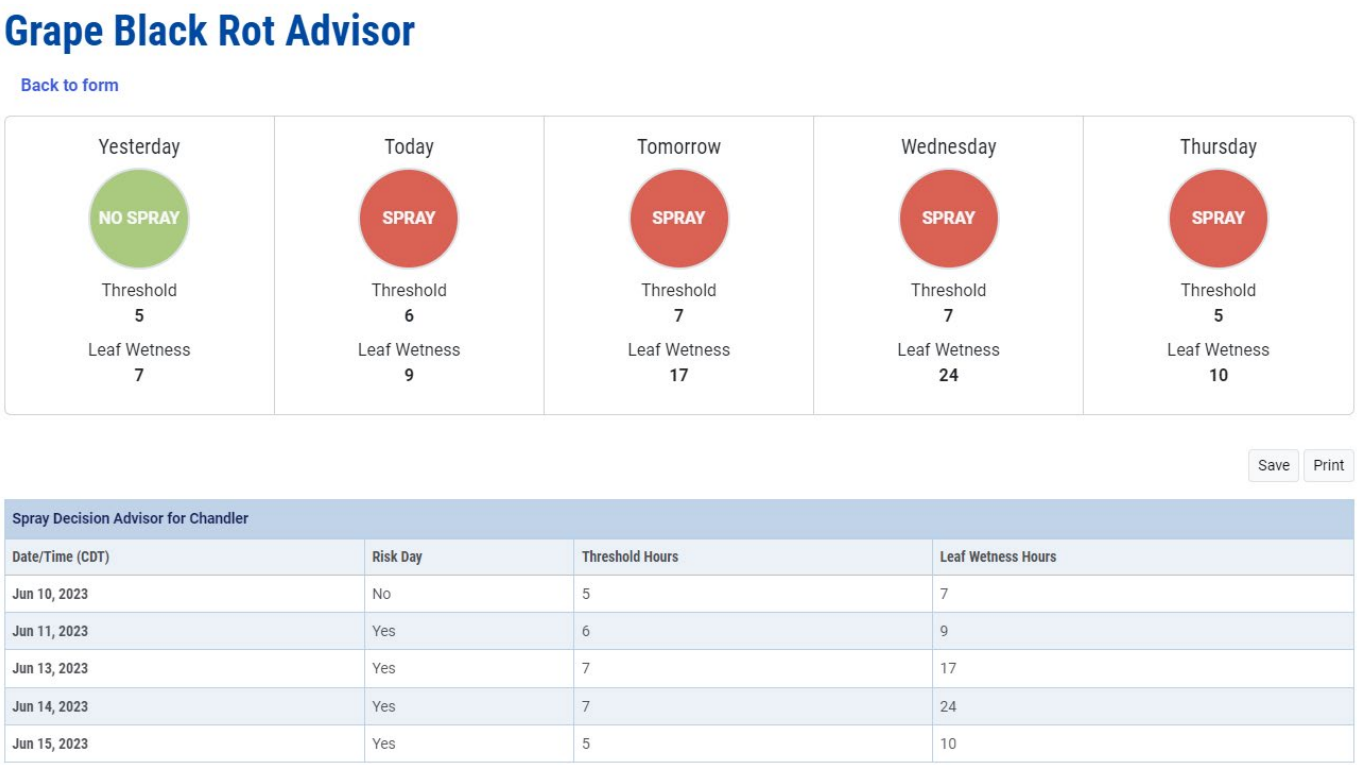
Temperature (°F)	Minimum hours of continuous leaf wetness
50	24
55	12
60	9
65	8
70	7
75	7
80	6
85	9
90	12



Spotts, R. A. 1977. Effect of leaf wetness duration and temperature on the infectivity of *Guignardia bidwellii* on grape leaves. Phytopathology 67:1378-1381.

The black rot advisor shows the accumulated number of “risk days” that have occurred since Marth 15th each year. Utilizing the pull-down menu, you can change your Mesonet site and see a 3-day Forecast table (utilizing the North American Model), a Season-Long table, the Spray Decision Advisor, and a Past Years Comparison.

When the Spray Decision Advisor is selected, additional information is needed. The user must put in a start date (March 15th or the last fungicide application date), and the number of days of fungicide protection (5, 7, 10, or 14 days). The Spray Decision Advisor will then look at the accumulated risk days form March 15th or the last fungicide spray date. If an additional fungicide application is needed, then a red “Spray” icon will be shown. If spraying is not warranted, then a green “NO Spray” icon is shown.



Spray Decision Advisor for Chandler

Date/Time (CDT)	Risk Day	Threshold Hours	Leaf Wetness Hours
Jun 10, 2023	No	5	7
Jun 11, 2023	Yes	6	9
Jun 13, 2023	Yes	7	17
Jun 14, 2023	Yes	7	24
Jun 15, 2023	Yes	5	10

For more information contact the Oklahoma Mesonet at **405-325-3231** or email us at operator@mesonet.org.

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