

How to Use Agweather's Spinach White Rust Advisor

article revised October 2009

Introduction:

In Oklahoma, growers are faced with numerous unpredictable conditions that can greatly improve or severely damage their crop. Spinach growers in Oklahoma are faced with fighting a chronic foliar disease, spinach white rust.

Agweather features a Spinach White Rust Advisor that allows growers and industry professionals to track current, seasonal and past spinach white rust infection hours. The Spinach White Rust Advisor is a decision support tool that has been developed to aid growers in proper timing of fungicide applications to protect against secondary spinach white rust infections.

Spinach white rust is a foliar disease that can persist in soil as resistant spores that can survive for many years and initiate primary disease infection. Primary infections usually occur in low areas of old spinach fields following heavy rains. Secondary disease infection comes from airborne spores that spread within and between fields. Cool temperatures and wet weather favors spinach white rust infection. The Mesonet Agweather Spinach White Rust Advisor is a weather-based tool that identifies times of high risk for outbreak from secondary white rust spores.

Using weather data from the Oklahoma Mesonet, the Spinach White Rust Advisor identifies hours of likely disease outbreak and tracks the hours that favor fungal development, known as white rust hours. Using this information, the grower can decide whether to apply fungicide or not.

As with any decision management product, the Spinach White Rust Advisor is to a guidance tool in making fungicide application decisions. It is not intended to replace the best judgement of the grower in making decisions.

White Rust Hour:

A white rust hour is defined as one hour with relative humidity at or above 90 percent and air temperature in the range of 52 to 68 degrees F. When relative humidity is at or above 90 percent and the air temperature is above or below the range of 52 to 68 degrees F, the white rust hours are weighted to account for slower disease development.

White rust hours begin to accumulate seven days after a fungicide application and the advisor assumes the fungicide will protect the crop for seven days.

Spinach White Rust Season:

The Spinach White Rust Advisor is operational from September 15 to May 15 and is updated hourly. The forecast data is updated four times a day and is based on forecasts from the National Weather Service.



Spinach white rust produces white, blister-like pustules on the lower leaf surface. Leaf area surrounding the spore-filled pustules turns brown and dies.



Spinach white rust occurs frequently in Arkansas, Oklahoma, Texas and areas in the southwestern United States.



Oklahoma
Mesonet

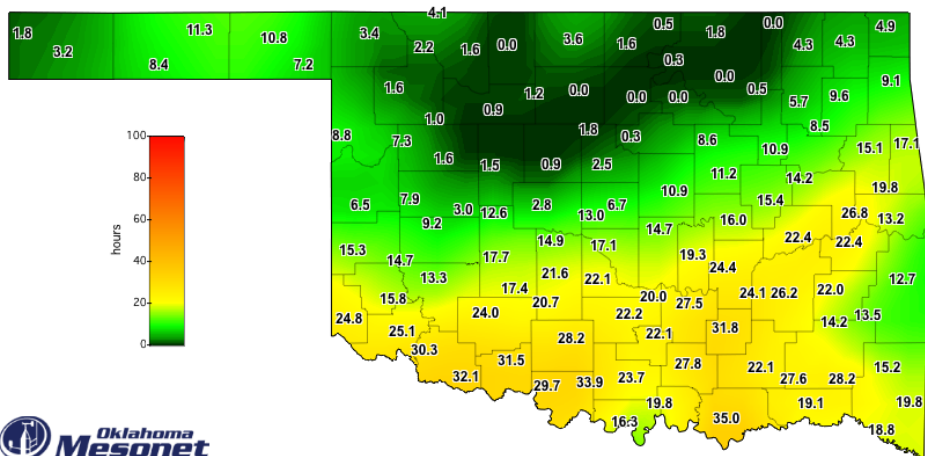
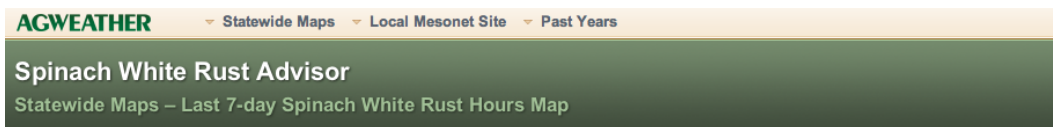


Where to Find Spinach White Rust Advisor Products:

Start at <http://agweather.mesonet.org>.

- Select "**Horticulture**" on the horizontal menu,
- Select "**Spinach**" from the left vertical menu.
- Click "**Spinach White Rust Advisor**"

Horizontal Selection Bar



Last 7-day Spinach White Rust Infection Hours

9:00 AM October 21, 2009 CDT
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Statewide Maps:

- Under the "**Statewide Maps**" tab on the horizontal selection bar on the advisory, you will be able to view the "**Last 7 Days White Rust Hours Map**", as well as a "**Season-long White Rust Hours Map**."

Local Mesonet Site:

White Rust Spray Advisor

- To see site-specific information, select "**Local Mesonet Site**" from the horizontal selection bar. Select "**White Rust Spray Advisor**" from the drop down menu.
- Choose the nearest "**Mesonet site**", and select "**Date of First True Leaf**" or "**Date of Last Fungicide Application**," and enter the date. Using this information the advisor will generate a "spray" or "no spray" recommendation, as well as display the number of spinach white rust hours that have occurred since the first leaf or since the end of fungicide protection.
- Under the "**Local Mesonet Site**" tab you can also view site-specific "**Last 7 Days and Forecast White Rust Hours Graph**," "**Season-long White Rust Hours Table**" and "**Forecast White Rust Hours Table**."

Past Years:

The "**Past Years**" tab gives you access to infection hour comparison graphs and tables for last year, two years ago and the 15-year average.

Learn More:

Explore the "**Learn More**" tab where you will find resources on how to use the spinach white rust advisor, advisor description and spinach crop and spinach white rust disease overviews.



Our story

In 1982, Oklahoma scientists recognized the need for a statewide weather network.

At OSU, agricultural scientists wanted to upgrade weather instruments at their research sites. Their goal was to expand the use of weather data in agricultural applications.

Meanwhile, scientists from OU and the Oklahoma Climatological Survey were helping to plan and implement a flood-warning system for Tulsa.

OSU and OU joined forces in 1987 when they

realized that one statewide weather network would help both universities achieve their missions.

No other state or nation is known to have a network that boasts the capabilities of the Oklahoma Mesonet.

Agweather is one Web site that features data from the Oklahoma Mesonet. Agweather provides weather-related products for agriculture and natural resources.

Agweather can be found at <http://agweather.mesonet.org/>.

Agweather
LOCAL. RELIABLE. FREE.



Oklahoma Mesonet

