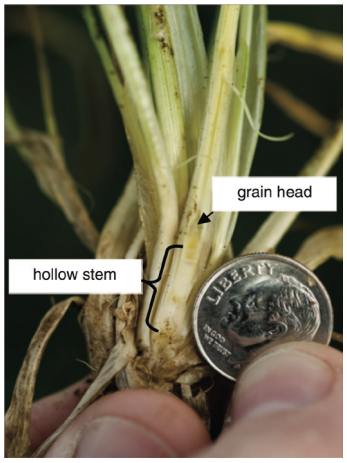
How to Use: Wheat First Hollow Stem Advisor

mesonet.org / Agriculture / Crops / Wheat / Wheat First Hollow Stem Advisor

Introduction:

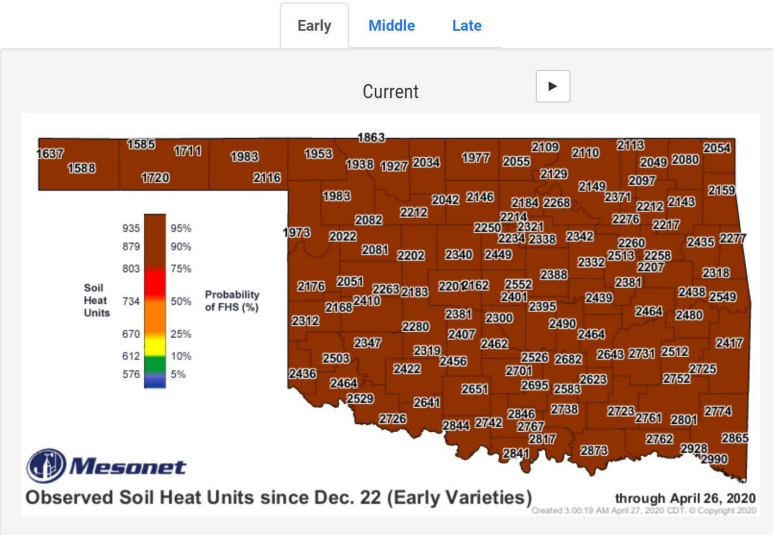


First Hollow Stem (FHS) is the optimal growth stage of wheat to remove cattle in order to optimize returns from dual-purpose wheat production system. FHS occurs when wheat transitions from a vegetative to reproductive state. As this begins above the roots and below the developing head becomes hollow. The wheat plant is said to be at FHS when the hollow stem portion of the plant is 5/8 inch long (about the diameter of a dime). When FHS occurs depends on wheat variety, planting date, and growing conditions.

Research has shown grazing past FHS can deduce grain yield between 1% and 5% per day. Grazing one week past first hollow stem could reduce grain yield by as much as 35%. In most circumstances, the additional cattle weight gain from grazing past first hollow stem would not be sufficient to offset the loss in grain yield.

The First Hollow Stem Advisor is accessible by utilizing an internet connected computer, tablet, or smart phone on the Mesonet website (mesonet.org). Once on the site, select the Agriculture tab, then Crops, then Weather icon, then First Hollow Stem Advisor icon.

First Hollow Stem Advisor:



A statewide map of Observed Soil Heat Units will open with 3 tabs along the top (Early, Middle, Late). This allows for research-based information to separate varieties of wheat based on their average date of reaching FHS. Using the pull-down box under “Mesonet Site Data” you can select your wheat variety to determine which map corresponds to your planted variety.

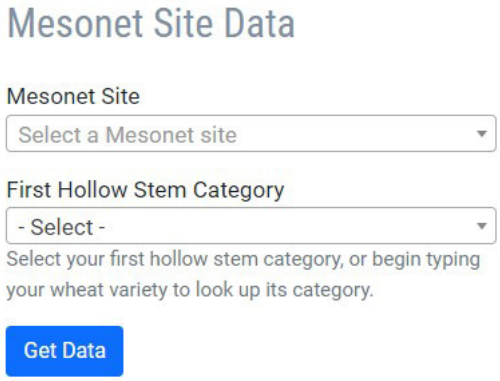
Models begin counting Soil Heat Units on December 22nd for Early and Middle varieties. The model for late varieties begins on January 1st.

Producers have the option of looking at the current conditions or a forecast one or two weeks in the future. Historical averages are used for the forecast.

The color-coded map legend shows the probability of FHS. Actual field scouting is encouraged when 5% FHS (green color) is indicated for a specific variety and location. 5% FHS equates to soil heat units of 576 for early, 731 for middle, and 539 for late varieties.

It is recommended that cattle be removed when FHS is found by actual field scouting in an ungrazed location or when the probability of 50% FHS, (red color) is indicated on the map for a specific variety or location.

Specific Mesonet Site Information:



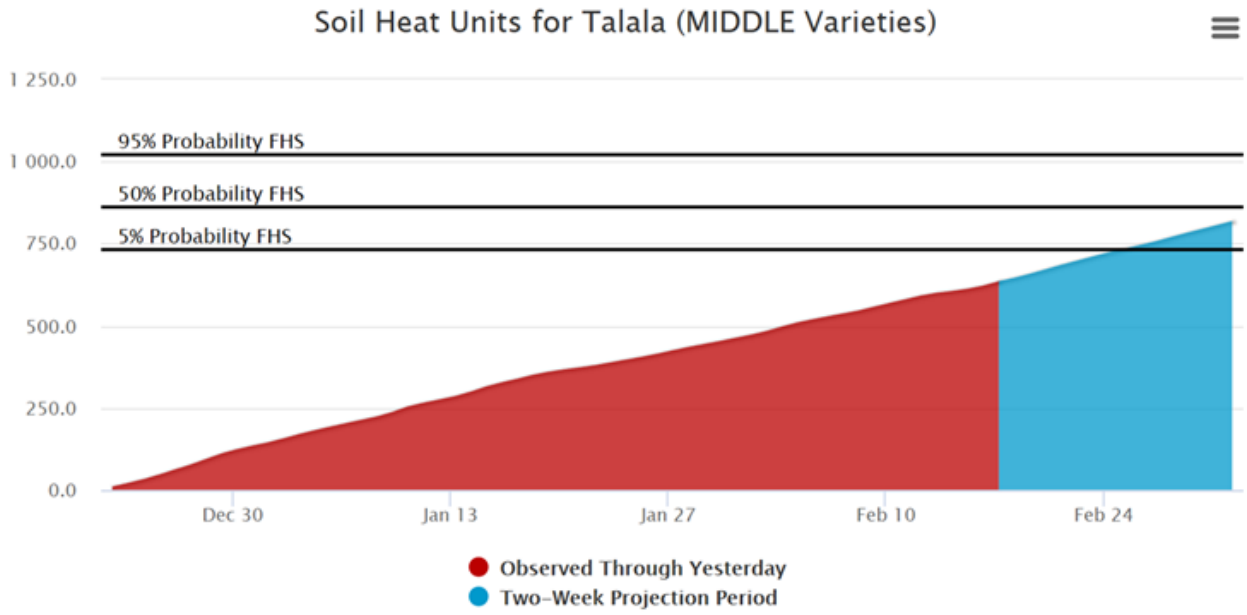
In addition to the statewide map, users have the ability to get Wheat First Hollow Stem information for a particular Mesonet site.

The pull-down box under “Mesonet Site” will allow users to select from the current 120 Mesonet sites.

The pull-down box under “First Hollow Stem Category” allows users to select their planted wheat variety or the option to just pick Early, Middle, or Late varieties.

These pull-down boxes will stay as selected until they are changed by the user or until “cookies” are detected on the device.

Once the user selected Get Data a chart like the one below will be created. The red fill area shows the daily accumulation of soil heat units up to the current date. Line sat the top clearly indicate when the location has met the 5, 50, 0r 95% probability of FHS. The blue fill area is the forecast of conditions for the next 7 days (based on historical data). Below the graph the data is also presented in a table format.



Our Story: The Oklahoma Mesonet is a world-class network of environmental monitoring stations. The network was designed and implemented by scientists at the University of Oklahoma (OU) and at Oklahoma State University (OSU).

The Oklahoma Mesonet consists of 120 automated stations covering Oklahoma. There is at least one Mesonet station in each of Oklahoma’s 77 counties. At each site, the environment is measured by a set of instruments located on or near a 10-meter-tall tower. The measurements are packaged into “observations” every 5 minutes, then the observations are transmitted to a central facility every 5 minutes, 24 hours per day, year-round.

For help with this or other Mesonet products, please call 405-325-3231, or email us at ocs@ou.edu.

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