



K-STATE
Research and Extension

Extension Agronomy

eUpdate

03/02/2018

These e-Updates are a regular weekly item from K-State Extension Agronomy and Kathy Gehl, Agronomy e-Update Editor. All of the Research and Extension faculty in Agronomy will be involved as sources from time to time. If you have any questions or suggestions for topics you'd like to have us address in this weekly update, contact Kathy Gehl, 785-532-3354 kgehl@ksu.edu, or Curtis Thompson, Extension Agronomy State Leader and Weed Management Specialist 785-532-3444 cthompso@ksu.edu.

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1. First hollow stem update: Week of February 25, 2018

Cattle should be removed from wheat pastures when the crop reaches first hollow stem (FHS). Grazing past this stage can severely affect wheat yields (for a full explanation, please refer to eUpdate article "[Optimal time to remove cattle from wheat pastures: First hollow stem](#)" in the Feb. 23, 2018 issue).

First hollow stem update

In order to screen for FHS during this important time in the growing season, the K-State Extension Wheat and Forages crew measures FHS on a weekly basis in 28 different wheat varieties that are commonly grown in Kansas. The varieties are in a September-sown replicated trial at the South Central Experiment Field near Hutchinson.

Ten stems are split open per variety per replication (Figure 1), for a total of 40 stems monitored per variety. The average length of hollow stem is reported for each of the varieties in Table 1. As of February 21st and 28th, none of the varieties had yet reached first hollow stem but all varieties had started to elongate the stem.



Figure 1. Ten main wheat stems were split open per replication per variety to estimate first hollow stem for this report, for a total of 40 stems split per variety. Photo by Romulo Lollato, K-State Research and Extension.

Table 1. Length of hollow stem measured Feb. 21 and Feb. 28, 2018, of 28 wheat varieties sown mid-September 2017 at the South Central Experiment Field near Hutchinson. The critical FHS length for purposes of cattle removal is 1.5 cm (about a half-inch or the diameter of a dime).

Variety	2/21/2018 2/28/2018	
	Hollow stem length	
	(cm)	
AM Eastwood	0.19	0.28
NE10478-1	0.15	0.25
LCH13-22	0.16	0.21
LCH14-55*	0.17	0.19
LCH14-89	0.15	0.22
LCS Chrome	0.16	0.20
LCS Pistol	0.17	0.22
Bentley	0.12	0.22
Doublestop CL Plus	0.15	0.21
Gallagher	0.18	0.26
Iba	0.16	0.20
Lonerider	0.15	0.21
OK12716	0.15	0.21
Ruby Lee	0.13	0.19
Smith's Gold	0.18	0.27
Spirit Rider	0.19	0.24
Stardust	0.18	0.23
Paradise	0.19	0.23
Bob Dole	0.19	0.25
SY Achieve CL2	0.18	0.26
SY Benefit	0.18	0.26
SY Rugged	0.13	0.23
1863	0.21	0.24
Joe	0.16	0.21
Larry	0.15	0.22
Oakley CL	0.14	0.21
Tatanka	0.12	0.22
Zenda	0.19	0.23
Differences among varieties	No	Yes
LSD	-	0.04

While none of the varieties had yet reached FHS as of February 28, there were statistical differences among the varieties evaluated and these differences tend to increase over time. Thus, we will report FHS again during March 5-9. Additionally, FHS is generally achieved within a few days from when the stem starts to elongate, so we advise producers to closely monitor their wheat pastures at this time.

The intention of this report is to provide producers an update on the progress of FHS development in different wheat varieties. Producers should use this information as a guide, but it is extremely important to monitor FHS from an ungrazed portion for each individual wheat pasture to make the

decision of removing cattle from wheat pastures.

For questions please contact Dr. Lollato:

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2. Just in time for spring - Enhanced soil temperature data on the Kansas Mesonet

The Kansas Mesonet is introducing a new Soil Temperature page for the 2018 growing season. Building on our previous Soil Temperature page, it still displays the past week's average but it also includes the average minimum and average maximum soil temperatures at both two and four inches. In addition, it is now updated three times per hour, giving a real-time look at soil temperatures throughout the state.

Timely soil temperature data can be very useful for producers, crop consultants, and agronomists. As spring approaches, soil planting conditions, particularly soil temperature, are critical for successful emergence and early-season uniformity of the crop. Planting when temperatures are too cold can delay emergence and increase the risk of disease. Plant roots aren't directly influenced by air temperatures, but once soil temperatures drop below a certain threshold, wheat, for example, can become susceptible to winter kill. When fall comes around, soil temperature plays a large role when considering the timing of anhydrous ammonia applications.

New Soil Temperature page for 2018

The first item users will see is a newly designed banner bar at the top of the page (Figure 1). This banner can be removed by clicking the "x" in the upper right corner. Left of the map (or above for the mobile version) is a summary of the temperature data for the chosen station. A drop-down menu box is just below the 4-inch soil temperature summary to allow the user to select a different station. To the right (or below) is the latest two-inch soil temperature map by default. The "Change Map" drop-down box located just above the map allows users to choose between eight different map options. Below the station summary box on the left-hand side are various options, including the chart and download options. The page defaults to the table format but you can switch to the chart format simply by clicking the "Chart" tab.

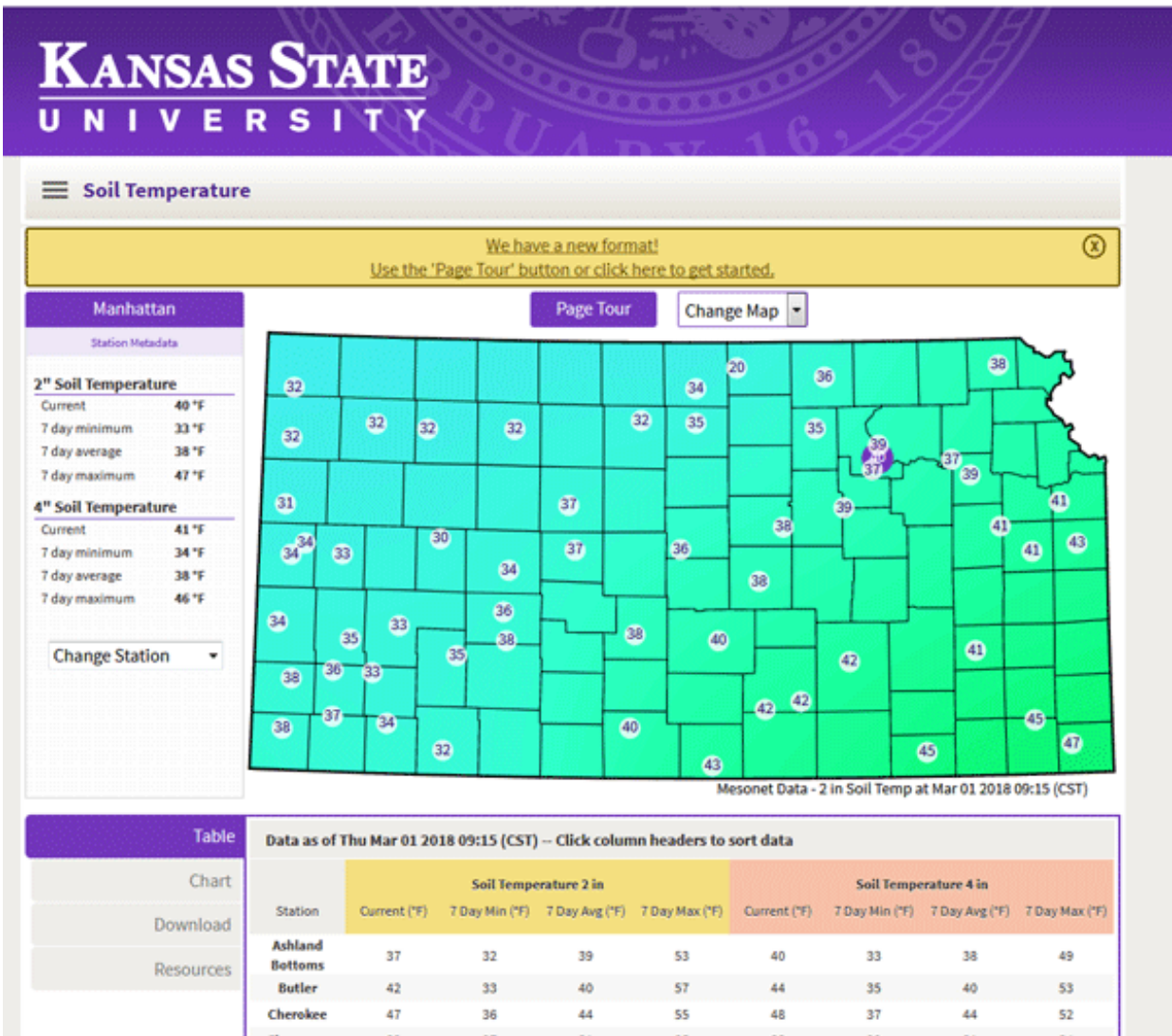


Figure 1. New soil temperature page on the Kansas Mesonet.

One exciting new feature is the “Page Tour” link. This helps explain how to navigate the page so that you can access the information in the format that is most useful to you. As you step through the screens, the tour highlights each component and provides an explanation of that feature (Figure 2).

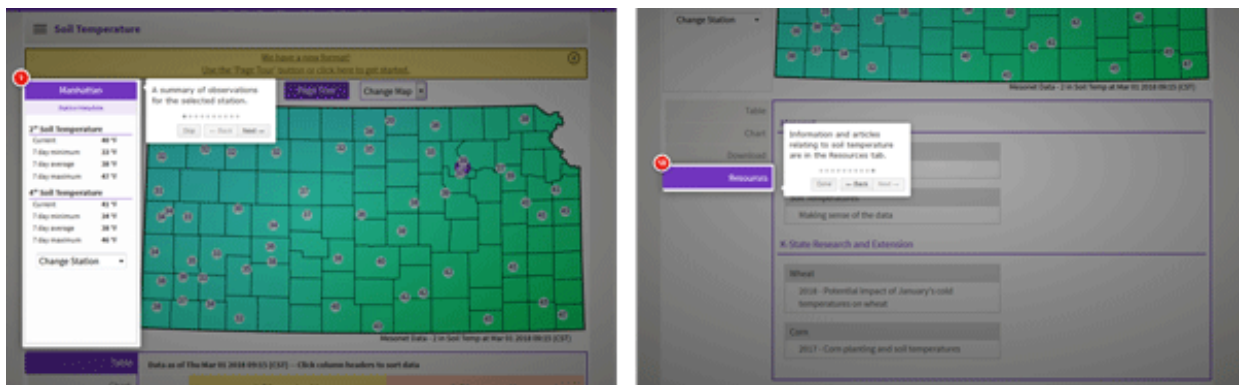


Figure 2. Page tour start (left image) and end (right image).

Another exciting feature is the ability to easily output the information in a variety of forms, including maps and comma-separated comma delimited files. This flexibility will allow you to tailor the data to your particular needs, whether that is an image for a newsletter or the raw data for use in research. For example, the chart feature displays both two and four-inch values over the past week (Figure 3). This provides insight to the trend over the previous seven days. It can also be compared to two-meter air temperature by selecting the faded “air temp” in the legend (Figure 4).

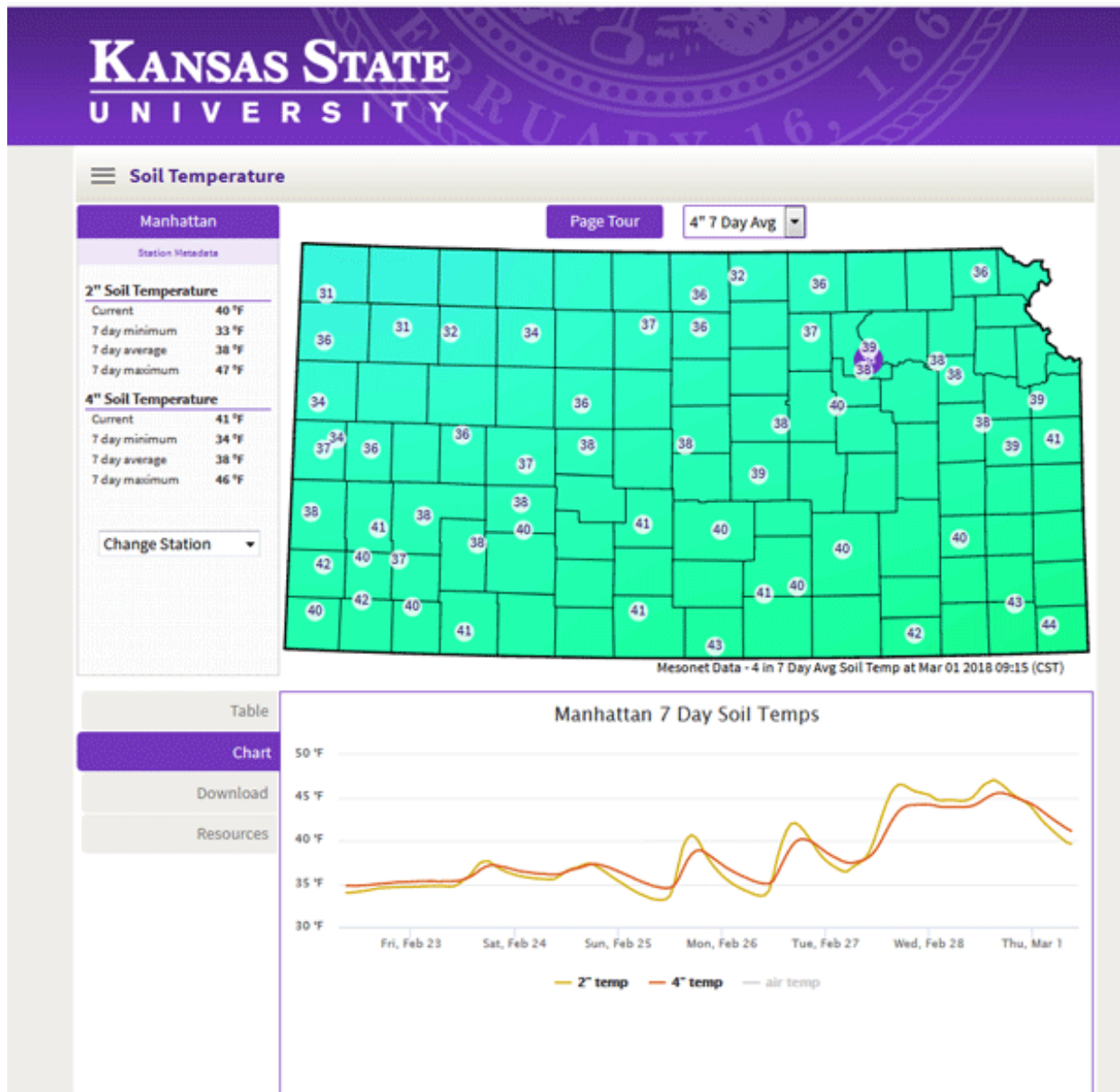


Figure 3. Soil temperature graphing option.

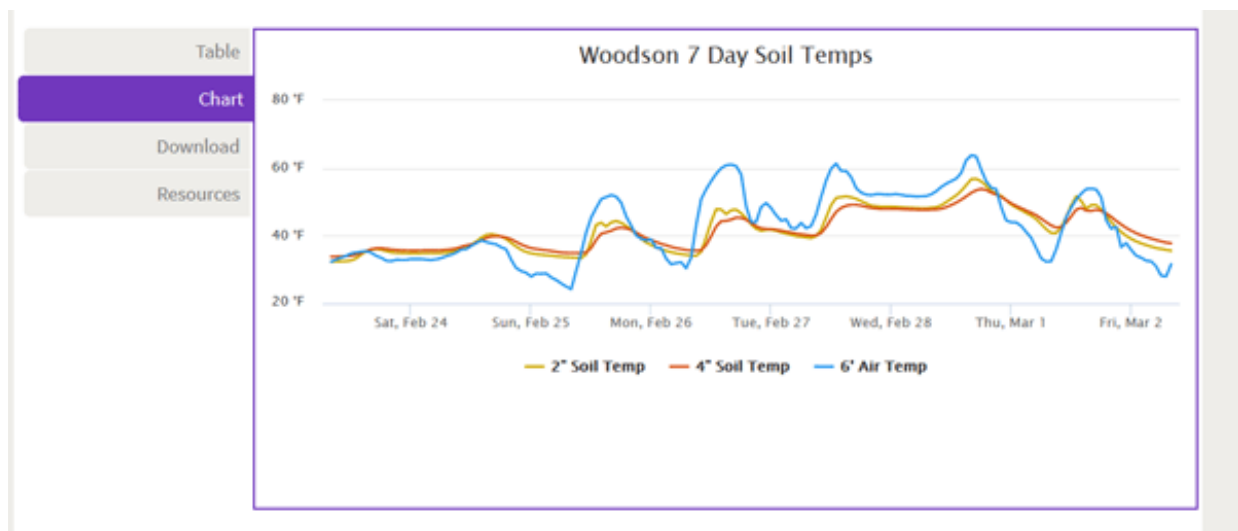


Figure 4. Close-up screenshot of soil temperature graph, 2-inch and 4-inch, combined with 6-inch air temperature.

For more information about how we collect temperatures and how to use them, visit our Soil Temperature Explanation page at <http://mesonet.k-state.edu/about/soiltemp/data/>.

Questions? Problems? Please let us know at kansas-wdl@k-state.edu or contact one of us directly.

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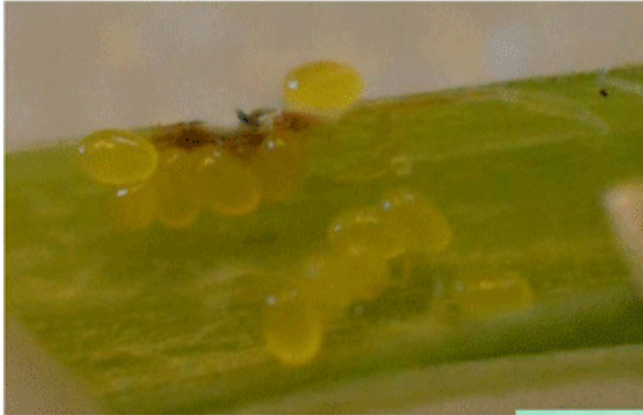
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3. Alfalfa weevil could be emerging soon

The first agricultural insect pest we typically confront each year in Kansas is the alfalfa weevil. This severe pest will begin feeding on alfalfa when eggs start hatching, anytime from late February through April. Alfalfa weevils overwinter either as eggs inserted in alfalfa stems (Figure 1), or adults (Figure 2).

Alfalfa weevils are cool-weather insects. Adults have been inhabiting alfalfa fields since last October where they have been doing a little feeding, but mostly laying eggs. Most of these eggs survive the winter. The adults will be active all winter, any time temperatures get over about 48 degrees F. The eggs deposited into the stems will also begin their development and continue developing anytime temperatures are greater than 48 degrees F. That is partly the reason the larvae can start hatching in late February and others can continue to hatch through April, depending upon when the eggs were deposited and how much development they have completed.



Alfalfa Weevil
Eggs in Stems



Figure 1. Alfalfa weevil eggs in the stems. Photos by Holly Schwarting, K-State Research and Extension.



Alfalfa Weevil Larva and Adult

Figure 2. Alfalfa weevil larva (bottom) and adult (upper). Photos by Holly Schwarting, K-State Research and Extension.

Since these development rates are controlled by temperatures, a thermal unit accumulation system, or growing degree day system, has been developed to help predict alfalfa weevil development. This is a neat and convenient way of monitoring weevil development without going to the field. You can calculate how many growing degree days have accumulated for the alfalfa weevil in your area, since January 1, 2018, using the Kansas Mesonet: <http://mesonet.k-state.edu/agriculture/degreedays/>

For more information on the growing degree system and alfalfa weevil biology, please see MF2999, Alfalfa Weevils: <https://www.bookstore.ksre.k-state.edu/pubs/MF2999.pdf>

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4. Still time to register for canola informational meeting, Great Bend, March 6

K-State Research and Extension is presenting a canola informational meeting on March 6, 2018 from 9:30 to 11:00 a.m. in Great Bend. The meeting will be held at the American Ag Credit Building, 5634 10th Street, Great Bend, KS.

According to Mike Stamm, K-State canola breeder, "We've seen some new interest in canola production around Great Bend so it is important to bring growers up to speed on varieties, seeding, and harvest methods. We hope to draw interest from surrounding counties as we feel canola can provide benefits in crop rotation here in central Kansas."

The meeting will highlight the basics of growing canola all the way from planting to harvest. Speakers for the event include:

- Mike Stamm, KSU Canola Breeder
- Lucas Haag, Northwest Area Extension Agronomist

Archer Daniels Midland representatives will also be present to discuss canola marketing.

Complimentary rolls, coffee, and juice will be provided by the Great Bend Coop and American Ag Credit. The Cottonwood Extension District is hosting the event. Please RSVP no later than **12:00 pm, March 5** either by phone at (620) 793-1910 or by email at bwalton@ksu.edu.

Growing Canola Informational Meeting

March 6, 2018

9:30-11am

American Ag Credit Building

5634 10th Street

Great Bend, KS



Topics:

Growing Canola Basics-From Planting to Harvest

Presenters:

Michael Stamm-Canola Breeder-Kansas
State University

Lucas Haag-NW Area Extension Agronomist

Complimentary rolls, coffee and juice will be
provided by Great Bend Coop & American
Ag Credit

**RSVP no later than 12 noon on March
5th. Call 620-793-1910 or
bwalton@ksu.edu**

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5. Don't miss the K-State Soybean School at Phillipsburg on March 21

It's not too late to attend a K-State Soybean School this year. Due to inclement weather, the Soybean School originally scheduled for January 22 in Phillipsburg was rescheduled for **March 21, 2018**.

The one-day school will cover a number of issues facing soybean growers including: weed control strategies, production practices, nutrient fertility, and insect management.

March 21 – Phillipsburg, KS

Phillips County Fair Building, 1481 US-183

Cody Miller, Phillips-Rooks District, codym@ksu.edu, 785-543-6845

Lunch will be provided courtesy of Kansas Soybean Commission (main sponsor of the schools). The schools will also be supported by Channel Seeds. There is no cost to attend, however participants are asked to pre-register by **March 19**. Please re-submit your registration if you had signed up for the original date.

Online registration is available at: [K-State Soybean Schools](#)

You can also preregister by emailing or calling the local K-State Research and Extension office listed above.



Ignacio Ciampitti, Crop Production and Cropping Systems Specialist

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6. Soil Health Workshop to be held on March 8 in Manhattan

A Riley County Soil Health Workshop will be held on Thursday, March 8, at Pottorf Hall, CiCo Park in Manhattan. The workshop will begin at 9:00 a.m. and conclude at 2:00 p.m.

The workshop is hosted by K-State Research and Extension and the Natural Resources Conservation Service. The workshop will discuss and highlight recent cover crop research and how cover crops relate to soil health.

Topics and speakers include:

- *Using cover crops as a tool for weed control*, Anita Dille – Weed Ecology
- *Cover crops and the nitrogen cycle in the rotation*, Peter Tomlinson – Environmental Quality
- *Sorghum response to cover crops in no-till systems*, Kraig Roozeboom, Crop Production
- *Protecting surface water with healthy soils, cover crops, and fertilizer management*, Nathan Nelson, Soil Fertility and Nutrient Management
- *Building better soils with cover crops*, DeAnn Presley – Soil Management
- *Cover crops in a soybean production system*, Doug Shoup – Southeast Area Crops and Soils
- *Covers for use by cattle*, Jaymelynn Farney – Southeast Area Beef Systems

Registration for the workshop is free and lunch will be provided. Participants are asked to register by **Monday, March 5**. Contact the Riley County Conservation District to reserve your spot by calling 785-537-8764 or at Aubrey.evans@ks.nacdnet.net

The event is limited to 200 people, so don't wait too long to register!