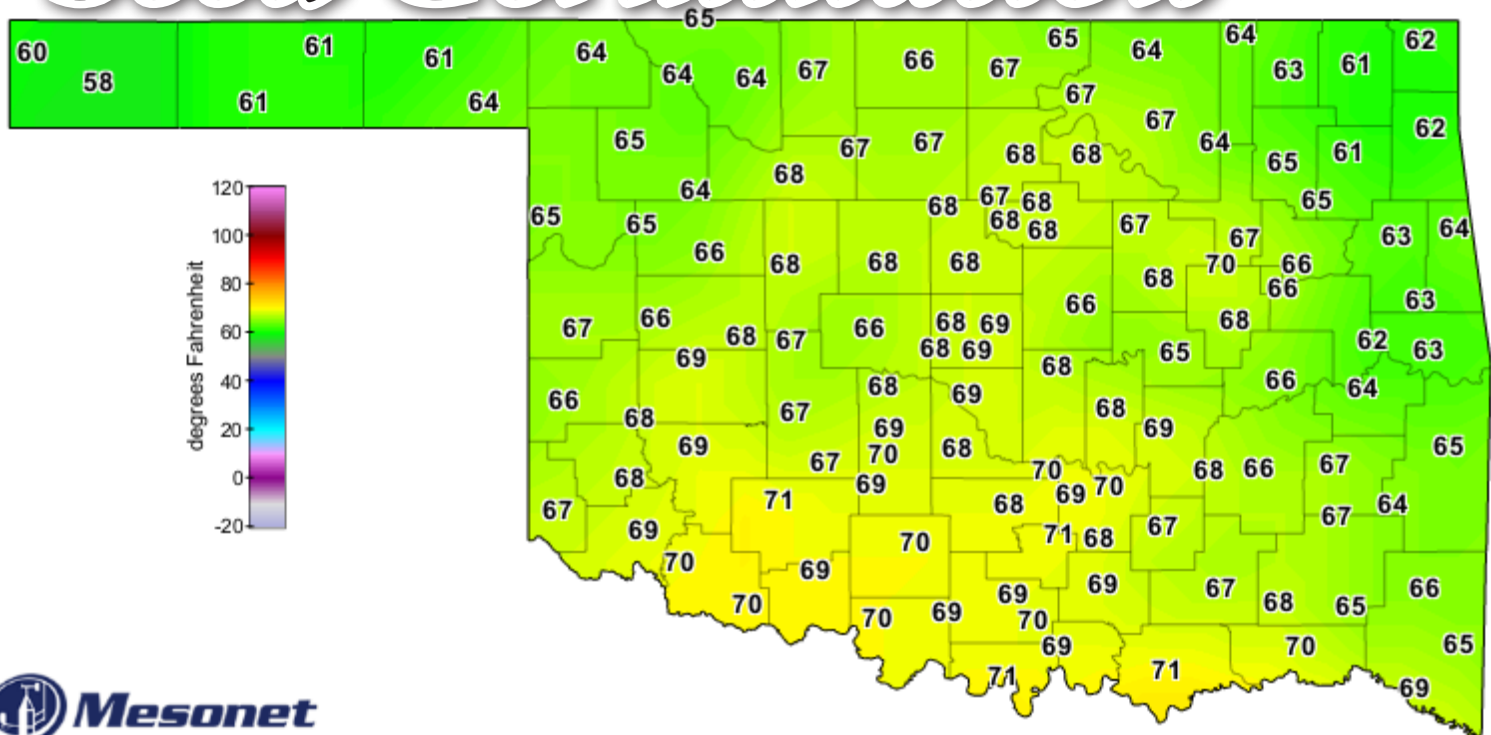


Seed Germination



3-Day Average Bare Soil Temperature at 4 inches (°F)

as of 12:00 AM October 23, 2012

Created 6:55:08 AM October 23, 2012 CDT. © Copyright 2012

When soil temperatures are within an optimum range, seeds germinate quickly, giving young seedlings the best chance to grow into healthy plants.

Why does temperature matter?

The longer it takes for a plant to emerge, the more time fungi have to attack and invade plant tissue.

Often, these fungi attack the stem, so the seedling falls over and dies. Rapid emergence keeps the seedling one step ahead of these devastating fungi.

Running out of fuel

All of a seed's food reserves are stored inside the seed coat. If all of this food is used up before the plant is producing its own sugars, it dies.

When the plant is underground, the food reserves in the seed must meet all of its needs. Once the plant is above ground, leaves will start producing sugars for new growth.

Reducing seed loss

Typically, the best approach is to plant going into a warming trend. When the 1-day average is warmer than the 3-day average, your area is experiencing a warming trend. When looking at soil temperatures for planting, you should use the "1-day" or "3-day Average Bare Soil Temperature at 4 inches."

Begin at <http://mesonet.org/>, select "Weather," then "Soil Moisture/Temperature" from the side menu. Scroll to the 3-Day Average Temperature section, and select the "4-inch Under Bare Soil (3 day)" map. See the back for appropriate planting temperatures.

Also available is the "Soil Temperature Graph" (see back of handout) with viewing options from 1-day to 1 week. To view the soil temperature graph, begin at <http://mesonet.org/>, select "Weather," then "Soil Moisture/Temperature" from the side menu. Scroll down to the current temperature section and select "Soil Temperature Graph."

The graph allows you to zoom in to a certain time frame by clicking and dragging across the graph. You can also choose which soil temperature depths you want to view by selecting or unselecting the options at the bottom of the graph.



Mesonet



When should I plant?

Using soil temperatures to determine the best time to plant will help your crops get off to a great start.

To find out if it's a good time to plant, go to <http://mesonet.org/>. Go to "Weather," then "Soil Moisture/Temperature," then scroll down to the 3-Day Average Temperature Section and select the "4-inch Under Bare Soil (3 day)" map.

Compare the temperature's on the website to the those listed to the right. For help or additional information, call (405) 325-3231.

Crop	Minimum Temperature	Ideal Temperatures	Ideal Days to Emergence
Corn	50°F	75°F to 86°F	7 to 10
Cotton	65°F	90°F	5
Peanut	60°F to 65°F	75°F to 80°F	7 to 14
Sorghum	60°F	70°F+	7 to 10
Soybean	55°F	68°F to 86°F	7 to 10

Soil Temperature for Altus

Duration: 3 Days

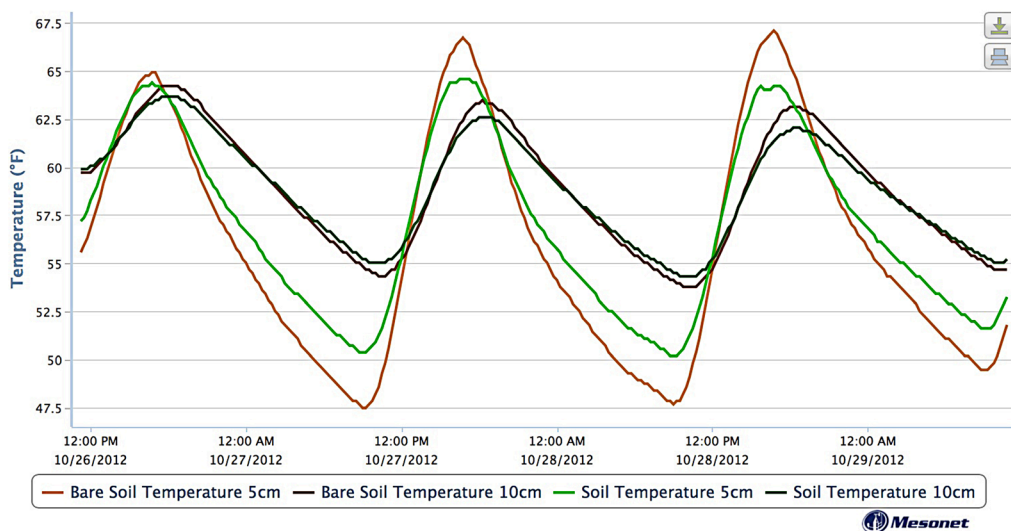
[Change Mesonet Site](#)



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Soil Temperature Graph

The "Soil Temperature Graph" shows 15-minute soil temperatures for up to 7 days. This is another way to monitor warming and cooling trends. The graph to the left for Altus, shows a slight warming trend from October 26th to 29th, 2012. The soil temperature depths are in centimeters. Five centimeters is 2 inches and 10 centimeters is 4 inches. To get to the "Soil Temperature Graph" click "Weather," then "Soil Moisture/Temperature," and scroll down to the Current Temperature group.

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 operator@mesonet.org.

