

Agweather Connection

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

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Better planting, better crops

By Laura K. McKay

As Oklahoma transitions from winter to spring, the earth begins to warm and plants emerge from winter dormancy. Spring is also the time of year to plant many crops and garden veggies. Before planting, you will want to know the minimum soil temperature required for each plant species.

When soil temperatures are within an optimum range, seeds germinate quickly, giving young seedlings the best chance to grow into healthy crops. If you plant the seeds when the soil is below this temperature, the plant may not germinate, and the seed will likely decay and die.

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.

All of a seed's food is stored inside the seed coat. When the plant is underground, this food must meet all of the plant's needs. If all of this food is used up before the plant is producing

“Most crops require a certain soil temperature before the plant will grow.”

Rick Kochenower
OSU research and extension specialist

its own sugars, it dies. Once the plant is above ground, young leaves will produce the sugar necessary for new growth. Some seeds, like cotton and peanuts, require warm temperatures to germinate, while others, like spinach, potatoes and onions, need cooler temperatures.

You can determine the best time to plant by looking at a 3-day average of soil temperatures measured 4 inches below the sod. To learn how to check soil temperatures, see page 2. To learn about minimum soil temperatures for fruits and veggies, [click here](#). To see the minimum soil temperatures for crops, [click here](#). ■



Knowing when...

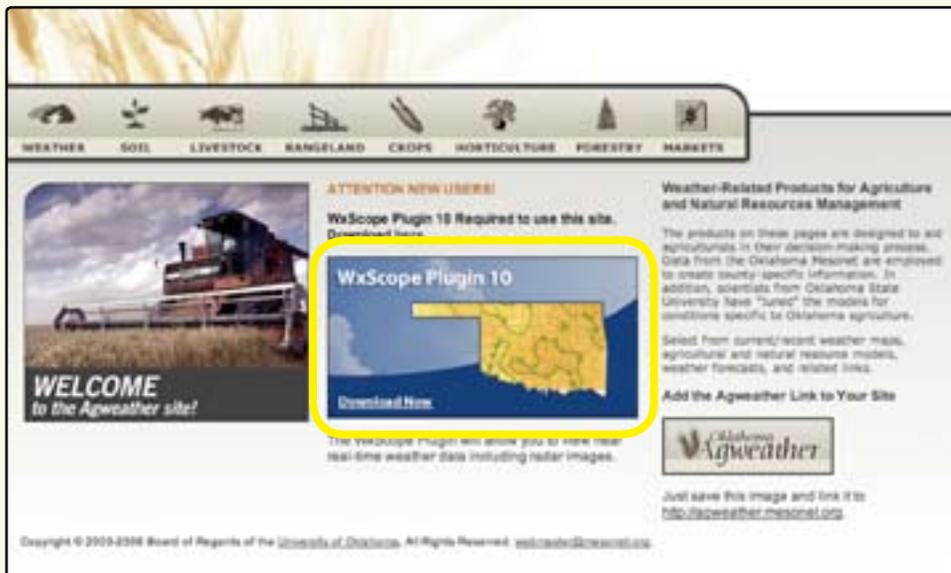
By Laura K. McKay

By anticipating the weather, farmers can stay one step ahead of conditions that might impact the health of their plants. Farmers and gardeners can utilize several weather tools on the free Agweather Web site at <http://agweather.mesonet.org/>.

These tools can help producers decide when to plant, when to protect from freezing temperatures, when to water and

when is a good time to spray. The Agweather Web site features data from the Oklahoma Mesonet, a statewide weather network supported by OSU and OU.

To help you get started, step-by-step directions are listed below. If you have any questions or need more information, call (405) 325-3126 or send e-mail to laura.k.mckay@okstate.edu or albert.sutherland@okstate.edu.



Free download

Start at <http://agweather.mesonet.org/>. Be sure to download the WxScope Plugin. It's safe and free, and allows you to view all of the resources that Agweather offers.

If your Internet connection is slow, we can send you a free CD that will allow you to download the WxScope Plugin more quickly. Call (405) 325-3126 to request a CD.

[Click here for the Windows software.](#)

[Click here for the Macintosh software.](#)



Soil Temperature

From the Agweather home page at <http://agweather.mesonet.org/>, pick the "Soil" button. Then select "Average Soil Temperature" and finally "3-day Avg. 4-in Under Sod."

You should also look at the "1-day Avg. 4-in Under Sod" and the "7-day Avg. 4-in Under Sod" to determine if your area is experiencing a warming trend.

When the 1-day average and 3-day average are warmer than the 7-day average, you are in a warming trend.

Freezing Temps Forecast

From the home page located at <http://agweather.mesonet.org/>, select the “Weather” icon. Then choose “Forecasts,” then “National Weather Service.”

Then, choose the forecast office closest to your location. You will be transferred to the National Weather Service Forecast page. Select your location on the map, or type in your City and State, or Zip Code in the text box on the upper left side of the page. The predicted high and low temperatures are shown in the “Forecast at a Glance.”

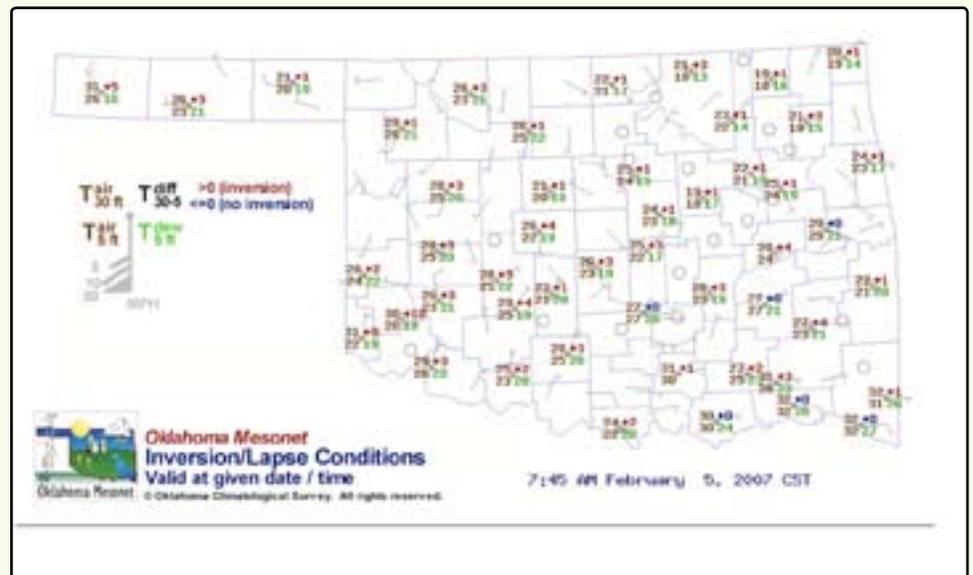


Temp Inversion for Spraying

From the home page located at <http://agweather.mesonet.org/>, select the “Weather” icon. Select “Atmosphere,” then “Inversion.”

Inversion maps show when the temperature on the ground is cooler than the temperature higher in the air.

Since the cooler air on the ground is heavier than the warmer air above, pesticides particles can be trapped close to the ground. Spraying when there is a temperature inversion could minimize unwanted drift and dispersion.

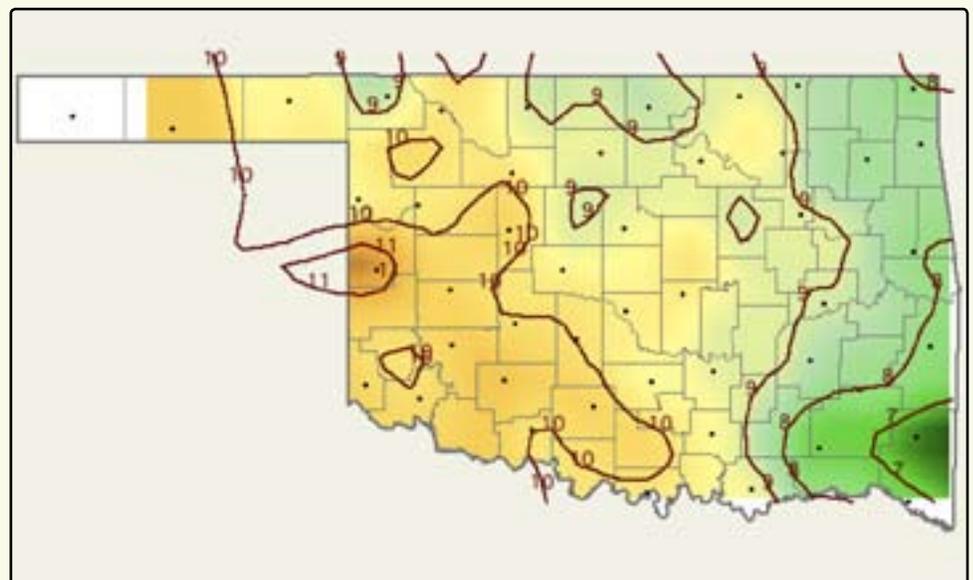


Evapotranspiration

From the Agweather home page found at <http://agweather.mesonet.org/>, select the “Weather” icon. Then choose “Evapotranspiration.”

You can choose between short vegetation and tall vegetation. Short crops are about 5 inches high and tall crops are about 20 inches high.

Both Tall and Short ET maps indicate the amount of water used by the plants through transpiration and evaporation. Evapotranspiration is measured in inches.





Now that winter is on its last legs, it's that time of year to consider planting a garden. Gardening should be a pleasure, but it helps to have a little knowledge on how to make a successful garden. Great gardeners seem to know exactly what to do to make plants happy. In the following article, horticulturist Sue Gray offers some of her gardening secrets.

Garden secrets

By *Susan Gray-Melaugh*

It's no secret that gardening in Oklahoma can be a challenge. Expect the unexpected so far as wind, rain, hail and freezing weather are concerned. That certainly applies to spring gardening in our fair state. Here are a few tips to get around those issues:

Add plenty of organic matter to soil. Whether it's old hay, straw, grass clippings or well-aged manure or compost, these materials will work wonders. They enable sandy soil to hold more moisture, while loosening up clay soils. Add a 2-inch layer twice a year to small garden beds and fork it in.

Match plants with their ideal location. If a plant tag says a plant needs sun, it really means it needs at least eight hours a day of full sun to thrive. Partial shade on plant tags means that

afternoon shade would be best to help offset ambient temperatures at that time of day.

Mulch soil around plants to retard weed growth, hold in moisture and keep roots cooler. Plant growth is driven by root temperatures. If soil temperatures are above 95 degrees, some roots begin to die. Conversely, don't plant heat-loving plants when soil temperatures are too cool. Two fine examples are periwinkles, which need to be planted after May 1st, and super sweet corn, which should not be planted when soil temperatures are below 65 degrees.

Keep tabs of soil temperature with Agweather for a successful gardening season. ■

Susan Gray-Melaugh is the OSU extension horticulturist for Tulsa County.

Agweather
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