

Soil Temperatures And Assessing Wheat Stands

URBANA, ILL.

With the delayed spring, questions have been asked regarding the soil temperature and how to assess stands of winter wheat.

Obviously, by using a soil thermometer individuals can measure soil temperature at various depths. Daily soil temperatures can be observed at the Illinois State Water Survey web site, www.isws.illinois.edu/warm/soiltemp.asp

This web site displays soil temperatures, from 19 weather stations across Illinois, at a 4-inch depth under bare soil and under sod. These are temperatures recorded between 9 am and 10 am on the previous day. For example, on April 4 the 4-inch bare soil temperature was 40 to 42 degrees F in northwestern Illinois. Also available at the web site is the maximum and minimum soil temperature from the previous day.

Regarding winter wheat, a stand of 25 to 30 plants per square foot is generally considered

optimum. 15 to 20 plants per square foot is the minimum population needed to keep a field in the spring. If one can wait and count tillers, they can compensate, to a certain degree, for a low plant count. About 60 productive (head-bearing) tillers per square foot are needed for an adequate stand. Take stand counts at several locations across the field so a representative sampling is obtained.

When taking stand counts, check the condition of the crown of the plant. The crown, a source of carbohydrate storage, needs to be $\frac{3}{4}$ - to 1-inch below the soil surface. If the crown is firm and white and new roots are developing, the plant is probably in good condition. As long as the crown is alive, the plant can produce new leaves.

To get a head start on assessing the health condition of wheat, dig shovelful "plugs" of soil and wheat. Put them in a sunny, cool area (unheated enclosed porch) and check the crowns for new growth in about a week. Δ

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