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## Soil Management Decisions This Fall

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# Soil Management Decisions This Fall

## **Abstract**

The soil moisture conditions and high temperature across the state during much of July and August may cause an early harvest, which means this is a good time to make soil management decisions for the upcoming season. The main driver of the fast maturity this year most likely is the heat in July coupled with lack of moisture – even though 61 percent of the state’s current top soil is adequate after the last few rain events. The current estimate of corn status in the state that corn is 86 percent dent or beyond, compared to normal of 69 percent. This means combines will start hitting the fields at least by the end of September if not earlier in some areas.

## **Keywords**

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## **Disciplines**

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### Soil Management Decisions This Fall

By Mahdi Al-Kaisi, Department of Agronomy

The soil moisture conditions and high temperature across the state during much of July and August may cause an early harvest, which means this is a good time to make soil management decisions for the upcoming season. The main driver of the fast maturity this year most likely is the heat in July coupled with lack of moisture – even though 61 percent of the state's current top soil is adequate after the last few rain events. The current estimate of corn status in the state that corn is 86 percent dent or beyond, compared to normal of 69 percent. This means combines will start hitting the fields at least by the end of September if not earlier in some areas.

#### Cover crop

The early harvest will leave soils without crop protection from potential late season rain and the vulnerability to water erosion. One management decision farmers may need to consider is the use of a cover crop when there will be a good window of time to establish cover crop to protect soil – in addition to other benefits associated with cover crop. (See [Legume Living Mulches in Corn and Soybeans](#) or [Small Grain Cover Crops for Corn and Soybeans](#).)

#### The decision of tillage

It will be very tempting to do tillage for variety of reasons, especially when there is plenty of time after harvest before winter arrives. However, the decision to till in the fall will be dictated by many factors that are not easy to control. The main factor for tillage in the fall or spring is soil moisture condition. Soil moisture content has significant impact on soil fracturing, tillage depth, clod size and level of soil compaction. Therefore, soil moisture can influence tillage practices, and ultimately yield and soil quality performance in the following season. One thing farmers need to consider before attempting any tillage is whether they need to do any – considering the input cost and potential damage to soil quality and productivity.

In a corn-soybean rotation, and especially for soybean following corn, research showed [no advantage for any tillage system for soybean following corn](#). There are alternatives that are equally as effective as conventional tillage, such as strip-tillage especially in poorly-drained soils, or no-till in well-drained areas. Site specific conditions, soil quality consideration, water quality consideration and economics of tillage need to be included in the [decision whether to till](#).

There are two main considerations for making a tillage decision this fall.

- One is soil conditions, which include soil drainage, top soil depth, soil texture and soil organic matter. These factors can have significant effect on the success of tillage system (no-till or conventional).
- The second is management considerations, which include a set of decisions that are equally important and may include residue

management attachments, crop rotation, equipment availability and calibration (i.e., proper setting of planters, combine calibration for proper residue distribution and uniformity, etc.), tile drain availability, fertilizer program and soil test, hybrid selection, etc. These considerations are critically important before attempting to do any tillage operation this fall.

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