

SHELBY COUNTY CROP TALK

September 4, 2020

Estimating Corn Yields

Now is the time of year that many yield estimates are being done. It is important to know how to do these properly to get good estimates. Providing yourself with a pre-harvest estimate can help set realistic expectations to assist with planning and marketing.



When conducting yield estimates, I suggest bringing a tape measure, pad, pen, and smartphone. Also, consider long sleeves and eye protection, or even a beekeeper hat to protect you from leave cuts while walking through the field. Use your smart phone to access a Google or Apple map app. Use the app to walk to specific areas of the field that represent good and poor areas. Once you navigate to the point in the field that you are estimating, measure 17 feet 5 inches (for 30-inch row spacing). This is 1/1000th of an acre. Count and record the number of harvestable ears in this row segment. Next, determine the average number of kernels/ear. Start by pulling an ear at every predetermined interval. I usually pull every 6th ear. This removes bias or preference and provides a more representative sample. Count the rows/ear and kernels/row on each ear and record them on your pad. Start counting a few kernels above the base and stop a few below the tip where rows are reduced. Calculate averages. Multiply average rows/ear X average kernels/row X harvestable ear count to get kernels/acre. Finally take the kernels/acre and divide by a factor that represents the number of kernels per bushel. I like to use 90, but it may range

from 80 to 105, depending on kernel size. The result is expected yield in bushels per acre. Repeat this in additional areas of the field to gain confidence in your counts.

Location	Rows per ear	Kernels per row	Ears per 1/1000 acre	1 bushel = 90,000 kernels	Estimate Bushels/Acre
1)	_____	_____			
2)	_____	_____			
A 3)	_____ X	_____ X	_____ ÷	90	= _____
4)	_____	_____			
5)	_____	_____			
ave.	_____	_____	_____		_____

Virtual Meeting

Last week I spoke of a conversation I had with John McGuire of Simplified Technology Services, Luke Baker of Brookside Labs, and Danny Greene of Greene Crop Consulting. We spoke of precision agriculture practices that might be considered and how you might make it work. We also discussed a survey of lime sources around the geography we work in. I have posted the links to these videos below.

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1

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Irrigation Management

Across most of the northern part of the Indiana and Illinois the southern border of Michigan and all of Iowa they are experiencing a drought. Some areas experiencing greater than 50% total rainfall loss for July and August. Fortunately, we aren't experiencing drought, but we might need to irrigate some late planted crops if the rain turns off. Although long term forecasts are calling for cooler wetter conditions across the state.

It can be difficult to determine if you should or should not irrigate late season. The whole goal of late season irrigation is to retain test weight and yield. We don't want to turn irrigation off too soon and reduce test weight, but we don't want to run the irrigation too long waste water and energy, either. Corn from early dent to black layer will begin lowering its daily water uptake from 1" to 0.5" a day. Soybeans will also lower their water uptake from full seed to mature pod from 1.1" to 0.4" a day. Farmers irrigating soybeans should maintain 50% water holding capacity until most pods are a light yellow. Corn ground should be at 50% water holding capacity until black layer. When irrigating, larger shots of water at once, 0.8"-1.1" every 6-8 days, are more efficient than smaller more frequent shots. Corn and soybeans will be using less and less water as the season continues so monitor your soil



moisture before making irrigation decisions. A good way to monitor soil moisture is to probe the soil at the center of a root mass and go a foot deep. Look for moisture all the way down the probe. This information was provided by Lyndon Kelley, Irrigation Extension Specialist for both Indiana and Michigan. If you have any questions for Lyndon reach out to him at kelleyl@msu.edu.

Resources

- Estimating Corn Yield
 - <https://www.dtnpf.com/agriculture/web/ag/crops/article/2017/08/24/estimate-corn-yield#:~:text=Multiply%20the%20average%20number%20of,90%20%3D%20240%20bushels%20per%20acre.>
- Precision Agriculture Video
 - <https://youtu.be/GktniqwBbPc>
- Lime Sources Video
 - <https://youtu.be/rQwd0lp-I6Q>
- Michigan State Late Season Irrigation
 - <https://www.canr.msu.edu/news/late-planted-crops-may-need-irrigation-into-october>