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*Transcript of podcast*

## **Irrigation Management Update for Eastern Nebraska**

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### **Summary**

The warmer humid conditions have continued this past week and are predicted for the coming week! We received from .59 inches of rain near Mead at the ARDC and between 2.9 to about 4.0 inches of rain in the York area! The ETgages in the Mead and the York areas dropped and average of 1.3 inches for the week compared to the 1.6 last week! High temperatures for the week varied from 86° F to nearly 94° F with humidities even higher than last week ranging from 77 percent to 89 percent and averaging more than 83 percent. A check of the soil water sensors in the York area indicates that soil water in the top three feet of the fields being monitored has increase slightly from last week and other than the top foot is at or above field capacity, while in the fields near the ARDC on fine sandy loam, we'll irrigate the field today or tomorrow unless it rains.

### **Audio**

Hello, this is Gary Zoubek, UNL Extension Educator from York, Nebraska. Today is Monday, July 11! It's really hard to believe how fast this crop has grown the past couple of weeks! Two weeks ago it was at my waist and today it's well above my head and I'm sure next week it will be tasseling. I took pictures of the crop on [June 27](#), on [July 4](#), and again this week. They're posted on the CropWatch website if you'd like to see them.

As in the past, I want to share our ETgage reading changes, estimated crop ET or evapo-transpiration, and the soil water status of some corn and soybean fields in eastern Nebraska. The Watermark Sensors, ETgages, and rain gauges are located in the York area and near UNL's Agricultural Research and Development Center near Mead.

As I mentioned in earlier podcasts, ETgages are a tool that take into account the humidity, solar radiation, air temperature, and air movement to estimate crop ET. For more information on how to use ETgages, please listen to previous podcasts in this series or check out the ETgage information at CropWatch or the UNL Water websites. This past week the ETgages at the ARDC and York all dropped an average of 1.30 inches, compared to last week's drop of 1.60 inches. High temperatures for the week varied from 86° F to nearly 94° F with humidities even higher than last week ranging from 77 percent to 89 percent and averaging more than 83 percent.

We estimate actual crop water use by multiplying the crop coefficients for the current growth stage times the ETgage drop. As the crop continues to gets larger and gets into the reproductive stages, the crop coefficients will increase to 1.1 for much of the remainder of the season. The crop coefficients for the state's major crops are available in the [Weather Section](#) of [CropWatch](#) as well as on the [Nebraska Ag Water Management Network](#) section of the [UNL Water](#) webpage.

The early planted fields that I'm monitoring are in the V15-V16 stage with the later planted fields in the V11-V13 stage. The crop coefficient for V12 corn is .88; for V14 it's 1.01, and for V16 corn it's 1.10. To estimate crop water use we multiply the crop coefficient by the drop shown by the ETgage.

For V12 corn, we would multiply the drop in the ETgage of 1.30 inches by the crop coefficient of .88 for a total crop use of 1.14 inches for the week or an average of 0.16 inch per day. To calculate the crop water use for corn in the V14 stage, multiply the 1.30 inch drop in the ETgage by the crop coefficient of 1.01. This gives us a crop water use of 1.31 inches or .19 inch per day. For the earliest planted corn or that in the V16 crop stage, we'd multiply 1.3 by 1.1 for an estimated crop ET of 1.43 inches for the week or .20 inches per day.

At the ARDC near Mead they received .59 inches of rain this past week, while in the York area we received from 2.6 to nearly 4 inches of rainfall this past week along with some strong winds! A check of the soil water sensors indicates that soil water in the top three feet of the fields being monitored has increased slightly from last week and other than the top foot is at or above field capacity.

In the York area with Hastings Silt Loam soils and all the sensors reading at or above field capacity, we have an average of 1.10 inches of available water per foot of profile. With much of the crop nearing tasseling we have a three foot profile or 3.3 inches of available water at the current time. For the Hastings Silt Loam soils we have a trigger reading of approximately 90, which is a depletion of about 35% of the soil water for that zone.

It's important to know your soil type when using Watermark Sensors. For a list of irrigation trigger levels for various Nebraska soils go to [water.unl.edu](http://water.unl.edu) and look under the agricultural irrigation link. Access the NAWMN link to view a file of Irrigation Trigger Levels for various soils. At the ARDC, the soil sensors in the top foot are reading 55 and 26 at the second foot. Since this field is a fine sandy loam soil, that's a depletion of about 1.0 inches in the top foot and .30 inches in the second foot for an average depletion of about .65 inches per foot.

Our trigger level for this stage of crop is between 45 and 55 and we are currently at a little over 40 for a depletion of 35%. In other words, we're planning to irrigate this field in the next day or so if it does not rain. Other fields in the ARDC area that have more organic matter and less sand will have a few days before they'll need their first application.

Our goal in managing our irrigation is to leave some room for potential rainfall while at the same time not limiting our potential yields. We're currently in great shape for this time of year! We will continue to monitor the soil water status again this Friday and make decisions at that time. The better the soil, the more options we have relative to timing of irrigation applications.

For more information about these and other irrigation management tools, go to [CropWatch](#) or [Nebraska Ag Water Management Network](#) webpages! You're also welcome to email me at [gzoubek1@unl.edu](mailto:gzoubek1@unl.edu). I'm sure we are going to see a big change in the crop again this week and it won't be long until the earliest corn will be tasseling!

Until next week, thanks for listening!