

## PROGRAM INFORMATION

**EQIP:** APPLICATIONS WILL CONTINUE TO BE PRE-APPROVED AS FUNDS BECOME AVAILABLE. **SIGNUP ANYTIME FOR 2023 FUNDS.**

**CSP:** CSP APPLICATIONS CONTINUE TO BE PRE-APPROVED AS FUNDS BECOME AVAILABLE. **SIGN UP ANYTIME FOR 2023 FUNDS.**

**NSWCP:** NEW FUNDS COME JULY 1<sup>ST</sup> FOR ALL CONSERVATION PRACTICES. TO HAVE FIRST CHANCE AT IRRIGATION PRACTICE APPROVAL, **GET YOUR IRRIGATION APPLICATIONS IN BY AUGUST 31<sup>ST</sup>.** APPLICATIONS MUST BE SIGNED BY THE OWNER.

**ENERGY EFFICIENCY GRANT:** SIGN-UP DEADLINE FOR 2023 FUNDS IS **OCT. 31, 2022.** RURAL DEVELOPMENT IS ALREADY ACCEPTING APPLICATIONS FOR THIS DEADLINE. FOR MORE INFORMATION CONTACT JOLENE JONES AT RURAL DEVELOPMENT AT THE KEARNEY USDA SERVICE CENTER AT 308-455-9837.

## CALENDAR OF EVENTS

**JULY 4: INDEPENDENCE DAY – GOV'T OFFICES CLOSED**

**JULY 5: CNPPID BOARD OF DIRECTORS MEETING**

**JULY 12: TBNRD BOARD MEETING**

### Investing in Soil Moisture Sensors

I am going to start this off by saying soil moisture sensors are a great tool to help you in your irrigation scheduling. However, there are things one should know about these sensors and it's no different than anything else on the farm.

When investing in soil moisture sensors, factors to consider are: convenience of installation and use, cost, remote access capability, availability, consulting support, sensitivity, calibration factors, and the number and depth of sensors. I think the consulting support is a huge factor. That's where you learn about the of the sensors and the information provided. If you don't get the support, then you are wasting time and money.

Here are some of my tips.:

- What are the numbers & charts telling me? Really quiz your dealer. They are your main support. If they can't help you understand the information provided and what goes into it, then move on to someone else.
- Maybe some company's just offer a red, yellow, and green color with no numbers or lines. Put the colors to numbers. At least I would want to know that to know if I am really getting my money's worth.
- What represents the "Full" and the "Refill" levels. Don't just rely on the line they have set, dig in so you know the basis of what these levels are based on.
- Some company's have numbers that don't relate to percent moisture. They are just stand-alone numbers. Somebody knows what they represent, so quiz.
- Company's have manual overrides so you can tweak the numbers that best fit your management. Know this stuff so you can manage it to fit your needs.
- Sensors will be conservative. They don't want to ruin your crop or they will ruin their business. They will make sure you don't under irrigate. Push the limits.

You are investing in soil moisture sensors to save money and be a better steward of our water resources. Don't waste it!

## CURTIS'S COLUMN



### Realistic Yield Goal To Determine Nitrogen Needs:

When determining your nitrogen amounts for the crop season, it starts with a Realistic Yield Goal (YG). Your YG will determine the amount of nitrogen your crop needs. From there, one needs to deduct the credits, reducing the nitrogen needs.

What is a YG? Is it coffee shop talk, is it your neighbors yields, is it one spot in the field that comes across the monitor, dream yield, or what? What YG are you spending money on?

There are many variables affecting yield: weather, hybrid, population, fertilizer program, irrigation program, pests, previous crops, tillage program, soil, etc. Every year these all act differently. Nitrogen amount is not the only factor.

A YG defined by UNL, NRCS, and others is a 5-year proven yield. Then add 5% for technology and genetic improvements. Treat each field individually and toss out the extreme years. For example, a 5-year average of 250 bushels plus 5% equates to a 262.5 bushel YG.

If you wish to increase your YG to justify more nitrogen applied, you can if you are not in a program paying for fertilizer management. But forget about the programs. The real question is, will the increase in nitrogen increase net profit?

Below are a couple of tables comparing one hybrid from the UNL TAPS program in 2021. The hybrid shown was one used by multiple teams and so a comparison could be made. NRCS, TBNRD, CNPPID, and UNL does not endorse this hybrid nor any other hybrid.

In the charts below you will see two UNL nitrogen recommendations in yellow based on two YG's of 252 and 262. Note the amount of nitrogen applied along with population and irrigation. For this hybrid in 2021, if you increased your YG from 252 to 262 and applied nitrogen accordingly, it appears to me there was no benefit of adding the extra nitrogen. Just money down the drain.

I will add, that I think our hybrids are better and we are outperforming our YG. Our TAPS team used a 250 YG for three years with yields of 252, 273, and 286. Yet the results show there was no gain in yield by increasing our YG to the average yield.

Final thought. Be true to your fields. It's your money.

### UNL TAPS – PIVOT – CORN 2021

Pioneer P1366AML				
	Population	Nitrogen UNL=185/194	Irrigation Rain=14.45"	Yield YG=252/262
Team 23	34,000	283	10.3	260
Team 32	34,000	158	9.8	247
Team 22	34,000	158	12.3	244

### UNL TAPS – SDI – CORN 2021

Pioneer P1366AML				
	Population	Nitrogen UNL=165/173	Irrigation Rain=14.45"	Yield YG=252/262
Team 8	33,000	208	9.1	289
Team 10	33,000	153	7.0	275

## CNPPID Irrigation/Conveyance Systems:

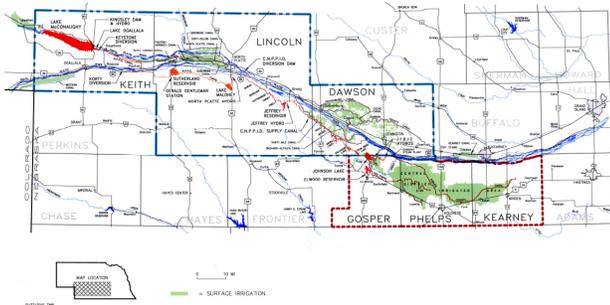
The Central Nebraska Public Power & Irrigation District currently serves over 108,000 irrigated acres with surface water for irrigation. This surface water is sourced from either water that is stored in Lake McConaughy and released downstream for irrigation; or is natural flow water out of the Platte River.

Water is transferred and delivered through four canal systems, which consist of a combination of hydroelectric power facilities, lakes, open ditches, pipelines, and siphons. The four canal systems provide surface water irrigation for Central's customers in Lincoln, Dawson, Gosper, Phelps, and Kearney counties.

The combination of these canal systems also provide groundwater recharge, recreation, and habitat for many species of fish and wildlife.

Central's canal system and lakes also provide storage and conveyance of surface water for other irrigation and public power districts.

THE CENTRAL NEBRASKA PUBLIC POWER AND IRRIGATION DISTRICT



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# TRI-BASIN NRD NEWS



## Groundwater Management Reminders:

### Groundwater Quantity Management (Water Use)

Check to see that your meters are working properly and notify the NRD if they are not.

### Groundwater Quality Management (Nitrogen Management/GMA)

Phase II & III: Water samples should be in July or August for 2023 Nitrogen Management Crop Reports. If you have questions about these requirements or reports, call Pat at our office at 308-995-6688.

Water Quality Sampling: You might see NRD Staff collecting water samples around the district.



### Chemigation

We are currently scheduling chemigation inspections for new and routine inspections. Inspections are required every three years in the Tri-Basin NRD for your system to remain renewable.

If you have problems with your system or make any changes, contact the NRD to have it inspected. If you have questions about these requirements or reports, call Whitney or Sasha at our office at 308-995-6688.

## New Western Corn Rootworm Technology:

Current Bt (*Bacillus thuringiensis*) corn breeding has allowed Western Corn Rootworms to build resistance. In UNL studies, Dr. Julie Peterson, West Central Extension Entomologist, says that a new mode of action (RNAi) is showing promise to reverse this resistance trend. Mainly, the new Bayer/Dekalb SmartStax PRO takes the traditional Bt corn rootworm control genetics to the next control level by combining RNAi + Bt DNA genes.

In a separate study, UNL is also evaluating the impact of using **Huma Gro** in continuous corn systems to control corn rootworms. This program focuses on fertility programs to protect corn rootworm feeding damage on growing corn roots.

## 2022 Western Bean Cutworm Update:

Multi-years Nebraska Extension West Central insecticide efficacy trials have been conducted at the UNL Stumpf farm at Grant, NE focusing on Western Bean Cutworm control. Based on UNL research, insecticide applications are recommended when WBC insect levels reach 5-8% plant infestation.

### Untreated (43% feeding damage)

Top insecticide control products = % feeding

**Best control = Prevathon® -14 oz/A (8% feeding);**

**Prevathon® - 10 oz/A (10%);**

**Besiege® - 9 oz/A (15%);**

**Blackhawk® - 2.2 oz/A (15%);**

**Mustang Maxx®- 1.76 oz/A (20%);**

**Steward® - 10 oz/A (20%);**

**Hero® - 5.0 oz/A (20%);**

**Brigade® - 6.4 oz/A (23%);**

**Besiege®- 6.0 oz/A (23%);**

**Mustang Maxx® - 4 oz/A (28%)**



Ideal treatment timing was when the corn plants were 90% tasseled (July 24). The next best timing was a slightly late application when plants were 100% tasseled (July 31) followed by a slightly early application <50% tasseled (July 17). Percent feeding damage with the top Prevathon product went from 8% feeding damage (ideal timing) to 13% damage down to 18% damage respectively.

## 2022 Irrigated Wheat Variety Selection Tool:

The free Nebraska Extension Winter Wheat "Variety Selection Tool" is now available at: <https://varietytesting.unl.edu>. This online tool allows users to sort wheat variety results based on yield performance; farming practices; & Nebraska counties.

2022 UNL Irrigated wheat performance varieties include: NU Horizon Genetics = **Epoch** – replacement for Wesley; AgriPro = **Wolverine** – replacement for Wolf; Limagrain Cereal Seeds = **Valiant, Link, Canvas, Helix AX and Atomic AX** -Co-Axium; Cropland = **CP 7017AX & CP 7050 AX**; and WestBred = **WB 4303 and WB 4595**.

Hail storms, which shatter mature kernels prior to harvest, can cause higher wheat volunteer for the next growing season. 'Green' volunteer provide a food source to bridge wheat curl mites transmitting wheat streak mosaic disease to the next crop. Therefore, 1) Kill all volunteer wheat **at least two weeks prior** to new wheat drilling (2<sup>nd</sup> week of Aug); 2) **Delay drilling** wheat **next to foxtail millet and green corn fields** (remaining live long into the fall season) which could serve as alternative wheat streak mosaic mite hosts; and 3) **Select wheat** varieties with **high resistance** to wheat streak mosaic.

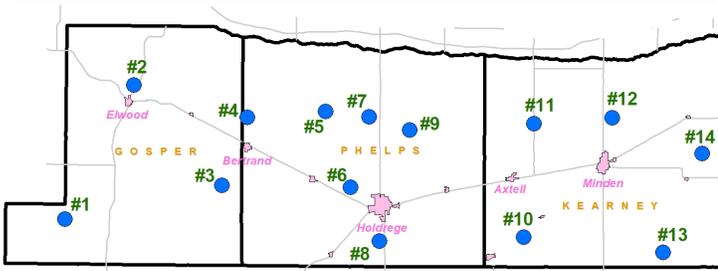
## NAWMN CROP ET INFORMATION

Additional Information and other ET resources can be found at websites listed under "Crop ET Information" below.

Inches of Crop Water Use (ET) =

Evaporation x Kc

Site	June 6 – June 12		June 13 – June 19	
	Evaporation	Rain	Evaporation	Rain
1	1.90	1.18	3.70	0.27
2	1.70	0.07	3.00	0.40
3	1.70	0.92	3.10	0.35
4	1.80	0.29	3.00	0.85
5	1.60	0.25	3.00	0.65
6	1.60	1.17	3.00	0.49
7	1.90	0.56	2.60	0.18
8	1.80	0.26	3.00	0.65
9	1.70	0.60	2.80	0.90
10	1.60	0.66	2.80	0.03
11	2.00	0.90	2.90	0.85
12	1.90	1.40	2.80	0.61
13	1.70	1.50	3.20	0.00
14	1.70	0.05	3.40	0.36



**2022 Map of NAWMN Sites across the Tri-Basin NRD.**

### Crop Coefficients (Kc)

Corn		Soybeans	
Stage	Kc	Stage	Kc
2 leaf	0.10	Cotyledon (VC)	0.10
4 leaf	0.18	1st Node (V1)	0.20
6 leaf	0.35	2nd Node (V2)	0.40
8 leaf	0.51	3rd Node (V3)	0.60
10 leaf	0.69	Beg. Bloom (R1)	0.90
12 leaf	0.88	Full Bloom (R2)	1.00
14 leaf	1.01	Beg. Pod (R3)	1.10
16 leaf	1.10	Full Pod (R4)	1.10
Silk – Beg. Dent	1.10	Beg. Seed (R5)	1.10
¼ Milk Line	1.04	Full Seed (R6)	1.10
Full Dent (½ Milk)	0.98	Yellow Leaf (R6.5)	1.00
¾ Milk Line	0.79	Beg. Mat. (R7)	0.90
Black Layer	0.60	Full Mat. (R8)	0.20
Full Maturity	0.10	Mature	0.10

### CROP STAGE INFORMATION

**Corn (V6-6 Leaf to V12-12 Leaf stage):** At V6, the growing point and tassel are above the ground and stalk elongation has begun. At V12, the number of potential kernels and the size of the ear are being determined.

Avg. daily water use from June 6 – June 12 was 0.13"-0.47".

**Soybeans (V2-2<sup>nd</sup> Node to V5-5<sup>th</sup> Node stage):** Nitrogen-fixation starts around the V2-V3 stages. The number of nodules formed and the amount of nitrogen fixed increases with time until R5.5 when it drops off sharply.

Avg. daily water use from June 6 – June 12 was 0.15"-0.37".

June 6-June 12 (14 of 14 NAWMN sites reporting): Average weekly rainfall was 0.47 (range 0.00 to 0.90). Average weekly ET for corn was 1.48 and for soybeans was 1.69.

### CROP ET INFORMATION

**NAWMN:** <https://nawmn.unl.edu/ETdata/DataMap>

**TBNRD:** <https://www.tribasinrnr.org/tbawmn>

**CNPPID:** <https://www.cnppid.com/weather-et-data/>

**CropWatch:** <https://cropwatch.unl.edu/gdd-etdata>

**Texting:** TBNRD: 308-995-6688 or UNL: 308-995-4222

**Email:** CNPPID: 308-995-3555

CORN STAGE		DESCRIPTION
V6	6 Leaves	Leaf stage is defined by number of leaves with visible collars. The collar is a discolored line where the leaf meets the stalk. This line circles the stalk. <b>TIP: Mark the 6th leaf or a higher leaf by cutting a notch in it or some other way so as to know that leaf number. Reason is the lower leaves will be lost as the plant develops. Flag or somehow mark the plant in the field as a reference plant when determining later leaf (vegetative) stages.</b>
10	10 Leaves	
V14	14 Leaves	
SOYBEAN STAGE		DESCRIPTION
V1	First Node	One trifoliate leaf has 3 leaflets. V1 is the first trifoliate leaf with unrolled or unfolded leaflets. Leaflet edges are no longer touching. (2 nodes = 1 unifoliate + 1 trifoliate)
V3	Third Node	V3 has 3 nodes on main stem, each with a trifoliate leaf with unfolded leaflets. Plant as 4 nodes total: 1 unifoliate + 3 trifoliate
R1	Beginning Bloom	At least one open flower is present at any main stem node.

## LAKE AND RIVER LEVELS

CNPPID Reservoir Elevation and Platte River Flow data listed below and other locations can be found on CNPPID's website at <http://cnppid.com/wp-content/uploads/2016/06/lakeRiverData.html>.

	June 23, 2022, 8:00 AM	1 Year Ago
Capacity of Lake McConaughy	58.6%	NA
Inflows to Lake McConaughy	107 cfs	259 cfs
Flows on the North Platte at North Platte	1400 cfs	1690 cfs
Flows on the South Platte at North Platte	95 cfs	477 cfs
Flows on the Platte at Overton	922 cfs	1670 cfs



**July 4th**  
**Happy Birthday**  
**America!**

## WEBSITES OF INTEREST

NRCS Nebraska [www.ne.nrcs.usda.gov](http://www.ne.nrcs.usda.gov)  
 Farm Service Agency [www.fsa.usda.gov](http://www.fsa.usda.gov)  
 TBNRD Home Page [www.tribasinrnr.org/](http://www.tribasinrnr.org/)  
 Central Irrigation District [www.cnppid.com/cropwatch.unl.edu](http://www.cnppid.com/cropwatch.unl.edu)  
 UNL Cropwatch [cropwatch.unl.edu](http://cropwatch.unl.edu)  
 UNL Extension [extensionpubs.unl.edu/](http://extensionpubs.unl.edu/)  
 K-State SDI Website [www.ksre.ksu.edu/sdi](http://www.ksre.ksu.edu/sdi)  
 No-till On The Plains [www.notill.org](http://www.notill.org)  
 Soil Health: [www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/](http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/)  
 NE State Irrig Assoc [www.nebraskastateirrigationassociation.org/](http://www.nebraskastateirrigationassociation.org/)

## RAINFALL

Rainfall amounts listed below and other locations come from NeRAIN which can be found at website <https://nednr.nebraska.gov/NeRain/Maps/maps>.

Location:	June 9 – June 22	May 1 – June 22
Elwood 0.26 mi. S:	0.48	4.21
Bertrand 6.1 mi. SE:	0.61	6.92
Holdrege 0.99 mi. E:	0.45	5.05
Minden 7.2 mi. W:	0.57	5.51
Minden 5.8 mi. E:	0.49	5.00

**Average Rain for May-June in Holdrege = 8.04 Inches**

\*\*\* If you wish to receive this newsletter via e-mail, or have any questions, comments or ideas, feel free to contact Curtis Scheele at the NRCS office in Holdrege or you can email him at [curtis.scheele@usda.gov](mailto:curtis.scheele@usda.gov). \*\*\*

### USDA - Natural Resources Conservation Service

1609 Burlington Street  
 PO Box 798  
 Holdrege, NE 68949-0798  
 308-995-6121, Ext. 3

309 Smith Street  
 PO Box 41  
 Elwood, NE 68937-0041  
 308-785-3307, Ext. 3



1005 South Brown Street  
 Minden, NE 68959-2601

308-832-1895, Ext. 3

### Central Nebraska Public Power & Irrigation District

415 Lincoln Street  
 PO Box 740  
 Holdrege, NE 68949  
 308-995-8601



### Tri-Basin Natural Resources District

1723 Burlington Street  
 Holdrege, NE 68949  
 308-955-6688



### Nebraska Extension



1308 2<sup>nd</sup> Street  
 Holdrege, NE 68949

308-995-4222

PO Box 146  
 Elwood, NE 68937

308-785-2390

424 North Colorado  
 PO Box 31  
 Minden, NE 68959  
 308-832-0645

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