

## PROGRAM INFORMATION

**EQIP: FUNDING HAS CEASED FOR 2023 APPLICATIONS.**  
**PROJECTED CUTOFF DATE TO SIGN-UP FOR 2024 FUNDS IS MID-NOVEMBER.**

**CSP: FUNDING HAS CEASED FOR 2023 APPLICATIONS.**  
**PROJECTED CUTOFF DATE TO SIGN-UP FOR 2024 FUNDS IS MID-NOVEMBER.**

**NSWCP: FOR IRRIGATION PRACTICES, HAVE YOUR APPLICATION COMPLETE BY THANKSGIVING FOR THE NEXT OPPORTUNITY FOR 2024 FUNDS. THE EXCEPTION IS FLOW METERS ARE FUNDED EACH MONTH. APPLICATIONS MUST BE SIGNED BY THE OWNER.**

**ENERGY EFFICIENCY GRANT: NEXT SIGN-UP DEADLINE IS SEPTEMBER 30<sup>TH</sup>. FOR MORE INFORMATION CONTACT JOLENE AT RURAL DEVELOPMENT AT THE KEARNEY USDA SERVICE CENTER AT 308-455-9840 OR AT [JOLENE.JONES@USDA.GOV](mailto:JOLENE.JONES@USDA.GOV).**

## CALENDAR OF EVENTS

**SEPT 4: LAST DAY OF THE NEBRASKA STATE FAIR**

**SEPT 4: LABOR DAY – GOV'T OFFICES CLOSED**

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

**SEPT 12: TBNRD BOARD MEETING**

**SEPT 12-14: HUSKER HARVEST DAYS**

### CSP & EQIP Reminders!

#### CSP

- To ensure proper payments are made in a timely manner:
  - Submit your 2023 documentation by Sept. 1<sup>st</sup> at your local NRCS office:
    - completed enhancement jobsheets
    - signed certification sheets
    - supporting records such as soil tests, fertilizers applied, tissue tests, pesticides applied, pesticide EPA registration #'s, water samples, irrigation records, etc.
    - other required documentation
  - All 2023 enhancement job sheets, practices, etc. was sent to contract holders this past spring.
  - The Sept. 1<sup>st</sup> deadline gives us time to review and certify your documentation, gives you time to complete unfinished items, allows time for contract modifications if needed, and anything else that arises.
  - A letter with the above information was sent earlier to contract holders.
- If you are planting a cover crop this fall, a seeding sheet was sent to contract holders this past spring.

#### EQIP

- Submit your soil moisture sensor information shortly after irrigation season, prior to harvest. Then we can pay you in a timely manner. Irrigation records include:
  - year-end summary charts and individual sensor charts
  - flow meter readings
  - rainfall
  - crop ET information

## CURTIS'S COLUMN



### Last Irrigation???

Below is some guidance for last irrigation when your crop is at the stage mentioned. For a goal of ending the season at 60% moisture to a 4-foot root depth, this chart tells you how much moisture is needed to finish the crop based on what percent moisture you are at when your corn is at the stage mentioned.

Corn: 1/2 Milk Line (Full Dent) - Holdrege Silt Loam  
Needs 2.25 inches - Calculations to 4 feet of depth  
Goal: 60% moisture at seasons end  
90% Moisture: Done  
80% Moisture: Needs 0.45 Inches  
70% Moisture: Needs 1.35 inches  
60% Moisture: Needs 2.25 inches

Soybean: Leaves begin turning yellow - Holdrege Silt Loam  
Needs 1.90 inches - Calculations to 4 feet of depth  
Goal: 60% moisture at seasons end  
90% Moisture: Done  
80% Moisture: Needs 0.10 Inches  
70% Moisture: Needs 1.00 inches  
60% Moisture: Needs 1.90 inches

I recommend monitoring this til crop maturity, especially if we get a rain. For corn, I believe it shuts down rather quickly so we may not need all of the inches mentioned.

If you have any questions, you can call Curtis Scheele at 308-995-6121, Ext. 3 or email him at [curtis.scheele@usda.gov](mailto:curtis.scheele@usda.gov).

### How Much Water did I Apply in 2023?

As irrigation season comes to an end, you can read your flow meters and calculate how much water was pumped in 2023. Flow meters vary as to their unit outputs (ac-in \* 0.01, gallons \* 100, etc.). Simply subtract your beginning year reading from the ending year reading to get gross water pumped. See chart below to convert units to inches. Gross inches pumped is used for allocations, irrigation reports, etc. You can multiply gross inches pumped by an efficiency factor to calculate net water applied to the crop.

#### **How to Calculate Gross Inches Pumped**

- Acre-Inches / Acres = Inches Pumped
- Gallons Pumped / 27,154 / Acres = Inches Pumped
- (Acre-Feet \* 12) / Acres = Inches Pumped

#### **How to Calculate Net Inches Applied to the Crop**

Inches Pumped x Efficiency Factor\* = Net Inches Applied

##### \*Efficiency Factors

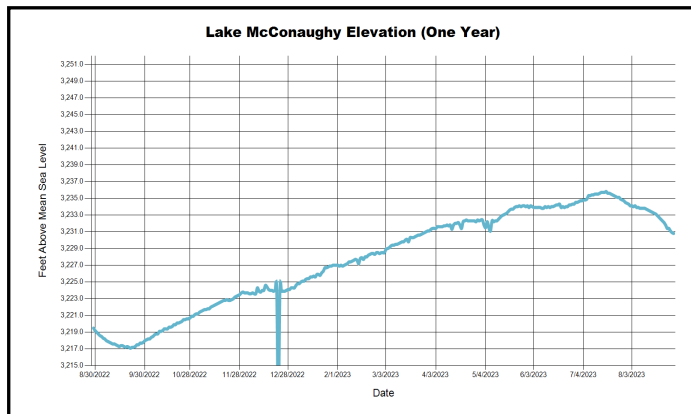
- Subsurface Drip Irrigation = 0.90
- Pivot - low pressure drops = 0.90
  - med. & low pressure impacts = 0.85
  - high pressure = 0.80
- Surge Valve = 0.80
- Gated Pipe - with reuse = 0.7
  - without reuse = 0.5

If you have any questions, you can call Curtis Scheele at 308-995-6121, Ext. 3 or email him at [curtis.scheele@usda.gov](mailto:curtis.scheele@usda.gov).

**Irrigation Season Ending**

The scheduled irrigation season for Central's irrigation customers ends this week. The headgates to Centrals E65, E67, and Phelp's canal systems are scheduled to close on Friday, September 8<sup>th</sup>. Customers can contact their ISS's for irrigation delivery availability during this time and drain down will also be available for delivery (as long as it lasts) after the headgates close.

Lake McConaughy is currently about 11 feet higher than one year ago at elevation 3230.4 (50.7%). The excess flows in the Platte River during much of the irrigation season allowed releases from Lake McConaughy to be less than expected for the 2023 season. The following graph shows Lake McConaughy elevation for the past year.



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**TRI-BASIN NRD NEWS**



**Before Irrigation Season Ends**

**Irrigation Water Samples:**

If you have fields in Phase 2 or Phase 3 of Tri-Basin NRD's Groundwater Quality Management Area, remember to take water samples from your irrigation wells. The sample results you get this year will be used to complete next year's (2024's) Nitrogen Management Reports.

**End of Year Flow Meter Readings for Water Use Reports:**

Irrigation season will be winding down soon. When you are in the field picking up irrigation pipe or bedding down irrigation engines, remember to record the end reading from your flow meter for Water Use Reports.



**Drain Your Chemigation Check Valve:**

Prepare your irrigation systems for cold weather by draining the main line check valve to prevent freezing. This will extend the life of the check valve and may help prevent check valve failure.

**Free Soybean Cyst Nematode Testing**

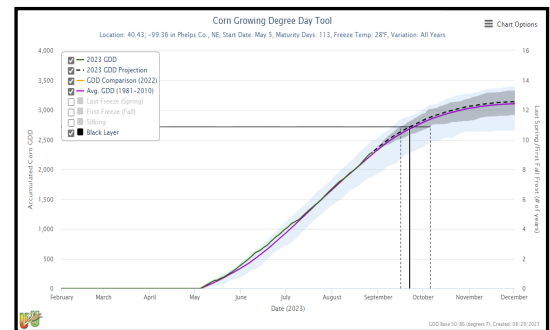
Soybean Sudden Death Syndrome with later growing season yellowing (chlorotic) leaves sometimes leading to pre-mature plant death is strongly correlated with Soybean Cyst Nematodes (SCN). However, soybean yellowing can also be associated with drought, soil compaction, nitrogen deficiency, charcoal rot, herbicide injury, and seedling blights.

So, the only recommended way to positively identify SCN is by a soil test; since SCN are microscopic worms which burrow into soybean roots. The Nebraska Soybean Board through Soybean Checkoff Dollars are again providing **free** soil test analysis for SCN with free soil sample bags available through Extension offices. When sampling suspect field problem areas with circular spots; take samples from the outer infected ring where live plant roots are still supporting SCN growth.

More free resources are at: <http://www.theSCNcoalition.com>.

**Irrigation GDD Season Indicators**

Based on our Tri-Basin May 5 Corn planting date (Useful to Useable U2U model) and 113 day maturity, corn will reach black



layer (2715 GDD – Growing Degree Day maturity) on Sep. 22 which will be 3-days earlier than the 30—year average.

Our Tri-Basin May 10 Soybean planting date is pegging current GDD days at 2168 compared to 2236 GDD for corn. However, soybean maturity is tricky; since soybeans response to photoperiod (daylength) rather than temperature. Also, producers may have planted different maturity groups. So, the R-7 reproduction stage (when soybean seed membrane is no longer attached to the pod wall) is still the most recommended maturity indicator for ceasing irrigation (see Tri-Basin Issue #8).

**Controlling Harvest Soil Compaction**

One strategy to reduce harvest time field compaction is running grain carts down the same row middles as the combine. Since over 80% of soil compaction damage is done with the first pass of weighted tire loads; establishing traffic lanes within fields will significantly reduce overall field compaction. Once a traffic lane has been driven and firmed up; subsequent passes will have little effect on total field compaction. Further, by using the same traffic lanes year after year, soil structure & water infiltration will be improved in the un-trafficked areas.

Pre-harvest planning, such as adding auger extensions on the combine, may keep grain cart wheel track lanes lining up with the harvester tracks. Planning how to reduce heavy grain trucks movement across fields has advantages as well; since the axle loads and tire pressures are not suitable for soils especially when wet. Harvest managers may also evaluate how to reduce grain cart fill and unload more often. Establishing grain cart pathways such as tramlines across fields and reduced turning around in the middle of the field may further reduce overall field compaction. Combine operators may consider unloading at the ends of the field; rather than on-the-go. Finally, use wide tires with lower pressures.

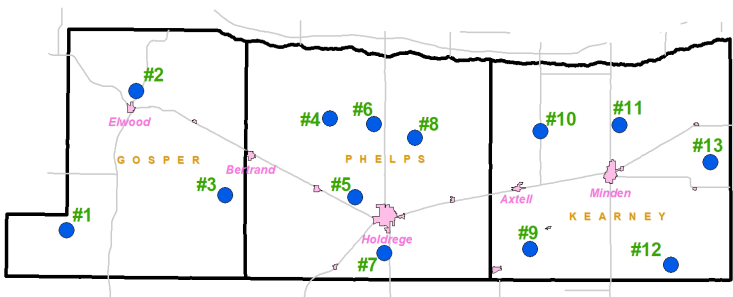
## NAWMN CROP ET INFORMATION

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	Aug 14 – Aug 20		Aug 21 – Aug 27	
	Evaporation	Rain	Evaporation	Rain
1	2.30	0.00	2.50	0.19
2	1.90	0.00	2.20	0.05
3	2.00	0.00	1.90	0.27
4	NA	NA	NA	NA
5	1.60	0.00	2.10	0.77
6	1.60	0.00	1.80	0.24
7	1.70	0.00	2.00	0.46
8	1.80	0.00	2.00	0.96
9	1.70	0.00	1.90	1.62
10	1.65	0.00	1.90	0.65
11	0.70	0.00	2.20	0.58
12	1.80	0.00	2.20	2.40
13	1.50	0.00	2.10	1.30



**2023 Map of NAWMN Sites across the Tri-Basin NRD**

CORN STAGE		DESCRIPTION
R5	1/4 Milk Line	Milk line or starch line appears shortly after denting as a line across the kernel when it is viewed from opposite the embryo side and will advance toward the base of the kernel (toward the cob).
R5.5	Full Dent / 1/2 Milk Line	The starch line is 1/2 the way down the kernel. Top 1/2 is hard and bottom 1/2 is softer near the cob.
R5.8	3/4 Milk Line	The starch line is 3/4 the way down the kernel, moving towards the cob.

SOYBEAN STAGE		DESCRIPTION
R6	Full Seed	At least one pod whose cavities are completely filled with green seeds is present at one of the four uppermost main stem nodes that have fully developed leaves.
R6.5	Full seed / Yellow leaf	Leaves begin to yellow, beginning in the lower canopy and progressing upwards.
R7	Beginning Maturity	At least one (normal) pod that has attained its final mature color (tan or brown, depending on variety) is present on any main stem node. 0.0 inches needed for yield.

### 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
1/4 Milk Line	1.04	Full Seed (R6)	1.10
Full Dent (1/2 Milk)	0.98	Yellow Leaf (R6.5)	1.00
3/4 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 (R4.7-Beginning Dent to R5.5-1/2 Milk Line stage):**  
Stress at R5 will reduce yield by kernel weight, not kernel number. At the beginning of R5, kernels have about 55% moisture.

Avg. daily water use from Aug 21 – Aug 27 was 0.27"-0.39".

**Soybeans (R5-Beginning Seed to R6-Full Seed stage):**  
Rapid leaf yellowing over the plant begins shortly after R6. Root growth is complete after R6.5. Stress from R6 to R6.5 may cause large yield reductions.

Avg. daily water use from Aug 21 – Aug 27 was 0.28"-0.39".

Aug 21-Aug 27 (12 of 13 NAWMN sites reporting): Average weekly rainfall was 0.79 (range 0.05 to 2.40). Average weekly ET for corn was 2.15 and for soybeans was 2.31.

### CROP ET INFORMATION

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

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

**UNL CropWatch:** <https://cropwatch.unl.edu/qdd-etdata> NEW

**Texting (Daily):** Sasha @ TBNRD: 308-995-6688

**Email (Weekly):** Curtis @ NRCS: 308-995-6121, Ext. 3

## LAKE AND RIVER LEVELS

CNPPID Reservoir Elevation and Capacity as well as 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>.

	August 31, 2023, 8:00 AM	1 Year Ago
<b>EI. &amp; Cap. – Lake McConaughy</b>	<b>3230.2 ft - 50.5%</b>	<b>3218.84 ft - NA%</b>
<b>Inflows to Lake McConaughy</b>	<b>623 cfs</b>	<b>205 cfs</b>
<b>Flows on the North Platte at North Platte</b>	<b>NA cfs</b>	<b>959 cfs</b>
<b>Flows on the South Platte at North Platte</b>	<b>216 cfs</b>	<b>74 cfs</b>
<b>Flows on the Platte at Overton</b>	<b>155 cfs</b>	<b>142 cfs</b>

**Labor Day! – September 4<sup>th</sup> – Video Tribute  
40 Hour Week by Alabama**

<https://www.bing.com/videos/search?q=alabama+40+hour+week+youtube&&view=detail&mid=925DA4D149950D09186A925DA4D149950D09186A&&FORM=VRD&ru=%2Fvideos%2Fsearch%3Fq%3Dalabama%252040%2520hour%2520week%2520youtube%26FORM%3DVIDRE>

## 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:	Aug 17 – Aug 30	May 1 – Aug 30
Elwood 1.81 mi. NW:	0.00	14.51
Loomis 0.2 mi. SW:	1.41	15.55
Holdrege 1.7 mi. W:	0.80	13.47
Minden 7.2 mi. W:	1.08	12.26
Minden 5.8 mi. E:	0.62	10.36

**Average Rain for May-August in Holdrege = 14.21 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

PO Box 146  
 Elwood, NE 68937

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

308-995-4222

308-785-2390

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