

# Tri-Basin Irrigator

Volume 23, Issue 10

September 14, 2023

## PROGRAM INFORMATION

**EQIP: FUNDING HAS CEASED FOR 2023 APPLICATIONS.**

**PROJECTED CUTOFF DATE FOR 2024 FUNDS IS MID-NOVEMBER.**

**CSP: FUNDING HAS CEASED FOR 2023 APPLICATIONS.**

**PROJECTED CUTOFF DATE 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

**OCT 2: CNPPID BOARD OF DIRECTORS MEETING**

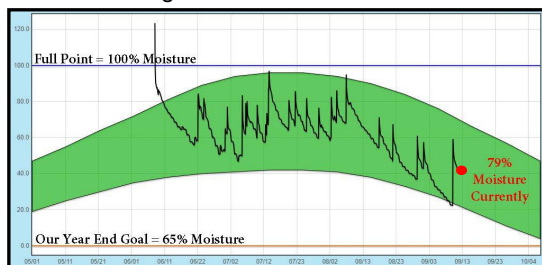
**OCT 9: COLUMBUS DAY – GOV'T OFFICES CLOSED**

**OCT 10: TBNRD BOARD MEETING**

## TBNRD TAPS Team – 2023

This is our 1<sup>st</sup> year in the pivot competition. The last 4 years we were on the subsurface drip system. Here is our 2023 year.

- Planted Pioneer P1185AM at 34,000 into soybean residue and minimal growth of cover crop (due to dry conditions). Cover Crop was wheat, triticale, barley, oats, and ryegrass.
- Hail on July 22<sup>nd</sup> (pollination time) with 60-70 mph winds caused approximately 35-50% leaf defoliation estimating a corn yield loss of 17-31%.
- Nitrogen applied: 149 lbs (34 lbs pre-plant, 55 lbs sidedress at 6-leaf, 30 lbs fertigated at 12-leaf, and 30 lbs fertigated at silking). This was our pre-season plan and didn't see a reason to add more during the year.
- Tissue samples at 14-leaf, prior to silking, was just over halfway in the sufficient range.
- Irrigation applied: 4.24 inches from July 5<sup>th</sup> thru Aug 31<sup>st</sup>. Rain from May 1<sup>st</sup> thru Sept. 13<sup>th</sup> was approximately 18.1 inches. Last spike on the chart below was from rain this past Sunday. We were working our way down, utilizing soil moisture, to end the year at about 65-70% moisture. Rain at the end of the year makes one look like a bad irrigator. We would have liked to have stayed in the lower part of the green section (80-85% moisture) during silking and early grain fill but rains kept us mainly in the upper 80% moisture levels and touching the low 90's.



## CURTIS'S COLUMN

 United States Department of Agriculture  
Natural Resources Conservation Service

### Cropland: Take a Break / Let's Talk Lawn Fertilizer

I have been focusing on nitrogen fertilizer this year. Since I work with farmers every day, my focus has been on corn producers. This issue gives them a break. I will talk about lawns instead, including parks, golf courses, ball fields, etc.

In the 2<sup>nd</sup> issue of this newsletter dated May 25, 2023, I gave an introduction on the high nitrates in our local groundwater. Ask me for a copy or you can see all the 2023 issues on the Tri-Basin NRD website at <https://www.tribasinprd.org/information-outreach/news/tri-basin-irrigator-newsletter>.

The University of Nebraska has lots of good information for turfgrass at <https://turf.unl.edu/turf-fact-sheets-nebguides>. I scanned the "Fertilizing Home Lawns" and the "Cool Season Lawn Calendar for Western Nebraska" fact sheets. These two looked to provide the best information for fertilizing lawns. I am not saying that other fact sheets, nor any other resources, do not provide valuable information as well.

There are many factors that play a role in how much nitrogen to apply to lawns. They include existing nitrogen levels in the soil, location, weather, type of grass, soil type, age and quality of the existing lawn, clippings, and lawn indicators.

A part of proper fertilization is knowing that nitrogen recommendations for lawns are listed as lbs of N per 1000 sq. ft. Nitrogen fertilizers come in two basic forms: quick-release and slow-release. And just like a corn producer needs to take soil samples to determine how much nitrogen is already in the soil, so must those fertilizing lawns, parks, golf courses, ball parks etc. Also, lawn spreaders need to be calibrated in order to apply proper amounts of fertilizer uniformly since these spreaders tend to apply more in the center than on the edges.

Some things to avoid are fertilizing too late in the fall. Some lawn companies will fertilize in late fall and early spring. You may have an option to opt into that or not. Grass is not growing much over winter if at all. So if applying nitrogen in late fall and again in early spring, I wonder what the true value of that nitrogen is? Come spring, that may be like a double application. A wet winter, that nitrogen will find it's way to the groundwater.

Over-watering your lawn sends nitrogen through the root zone and into the groundwater. That is a waste of money. So make sure you are applying appropriate amounts of water. Do not run sprinklers when it's raining. Pay special attention to automatic sprinklers. Also, over-watering doesn't leave room in the soil for rainfall, so when it rains, fertilizer will be lost.

Avoid spreading fertilizer on sidewalks, drives, or other impervious surfaces and avoid sweeping or blowing those granules into the lawn that was just fertilized. If you have a waterbody in or near your lawn, leave an untreated buffer strip to prevent fertilizers from entering the water. Do not apply fertilizer next to street drains, tile inlets etc. Do not dump grass clippings or tree leaves into water bodies or street drains either as those clippings contain valuable amounts of fertilizer.

Remember to always follow label instructions to reduce the risk of fertilizers moving away from the targeted area.

I have given some ideas to help protect our valuable water and to hopefully save you some money. For info on fertilizer rates, application dates, and other valuable information, the above fact sheets contain charts etc. to help out.

If we want to clean up the high nitrates in our groundwater, EVERYONE will need to play a part.

### Irrigation Season Ends: Maintenance Begins

Irrigation season is complete and Central will begin their off-season maintenance work on their conveyance system which consists of a combination of around 500 miles of canals and pipelines. This maintenance work consists of preparing for any excess flow diversions for ground water recharge, cleaning and reshaping of the canals, repairs to structures, pipelines, riser cans, pump sites, road crossings, bridges, flow meters, delivery point screens, canal roads, removing trees along the canals, installing new delivery points for the 2024 irrigation season, etc.

Central has scheduled a planned outage at Johnson No. 1 Hydro plant, which will drop Johnson Lake elevation approximately 13 feet below normal operations. The drawdown is scheduled to begin around October 26<sup>th</sup>, with the work tentatively scheduled from November 6<sup>th</sup>-16<sup>th</sup>. This will allow Central to fully inspect structures at Johnson Lake. Johnson Lake will slowly refill during the plant outage and should return to normal water operations by the end of November. The dates could be adjusted based on flows in the North and South Platte rivers.

Find us at [www.cnppid.com](http://www.cnppid.com) or @CNPPID on Facebook, Instagram, Twitter and LinkedIn.

## TRI-BASIN NRD NEWS



### Conservation Tree Planting

It is not too early to think about planting conservation trees next spring! Windbreaks and shelterbelts provide many benefits, including reducing soil erosion along field boundaries. We can provide tree planting services for your windbreak, as well as bundles of trees that you can plant yourself. You can contact Tri-Basin NRD or your local NRCS office to determine the type and number of trees and shrubs you will need. Cost share is available to landowners planting a minimum of 550 feet. The form for ordering hand plant trees will be available later this fall on our website, [www.tribasinnr.org](http://www.tribasinnr.org).



### UNL Generational Land Transfer Workshop – Oct. 10

Nebraska Extension in cooperation with the Nebraska Grazing Lands Coalition is hosting a “Generational Transition Workshop on **Tue., Oct. 10**, at the Mid-Plains Community College, Student Union Building, 1205 E 3<sup>rd</sup> Street, in McCook from 10:00 am – 2:30 pm.

Pam Olsen (Law Attorney) will present topics including: Succession & Transition Planning (including inheritance laws); legal operations structures; and flow of benefits to on-operation & off-operation beneficiaries. Additionally, a producer panel, who have experienced transition will answer questions.

Cost is \$20 for individuals and \$30 for couples with a noon meal provided. Register at: <https://nebraskagrazinglands.org> by Oct. 5<sup>th</sup>. Or, call UNL-Furnas Co. Extension 308-268-3105.

### Terminating Verbal Leases

For verbal leases, the Nebraska Supreme Court has ruled that the lease year begins March 1. Notice to a tenant to vacate under a **verbal or handshake** lease must be given **six months** in advance of the end of the lease, or no later than Sep. 1<sup>st</sup> regardless of the crop planted.

Example, a lease year beginning March 1, 2024 and ending Feb. 28, 2025, notice from the landlord that the lease will be terminated would have to be received by the tenant no later than Sept. 1, 2023. If the notice was provided after Sept. 1, 2023, the existing tenant will have the lease until Feb. 28, 2025.

Pasture handshake or verbal leases are different, since these leases are typically for a five-month grazing season rather than an entire year. The lease is only in effect for that time, so the lease is terminated at the end of the grazing season; however, **written** agreement arrangements may be adjusted. In all instances, written leases are preferred over oral or “handshake” leases due to clearer communication with tenants.

### Estimating Harvest Losses

Combine adjustments can make significant impacts on overall soybean yields. Since 80% of harvest losses occur at the header, periodical comparison of shattered soybeans on the ground ahead and behind the combine may be helpful to determine if more machine adjustments are needed.

Harvest loss estimates begin with average seed size estimates. Usually, there are 3,500 seeds per pound; so 1 soybean per square foot = 1 bushel per acre; using a 1-inch PVC one-foot square frame. In a representative area, stop the combine and back up 10 to 15 feet. Then, use the frame to count soybeans on the ground in the harvested area in front of the header; and repeat at least four counts across the entire header. Then, compare losses ahead & behind the combine.

### Soybean Harvest Aids

As soybeans mature, growers might consider using herbicide applications to ‘burndown’ tough green weeds as a harvest aid. Our Nebraska Extension EC-130 “2023 Guide for Weeds, Disease, and Insects Management in Nebraska” on page 135 lists three possible labelled harvest aid products: Aim®; Sharpen®; and Gramoxone®.

Both, Aim® and Sharpen®, have shorter 3 days PHI (pre-harvest intervals or days from application until harvest). For Aim, apply when 70% of pods are brown; and Sharpen label requires fully developed soybeans prior to application with more than 50% leaf drop.

Gramoxone SL® (paraquat) has a 15 days grazing restriction. Paraquat offers a rapid kill (usually less than 48 hours). Label requires that 65% of soybean pods are brown prior to chemical application.

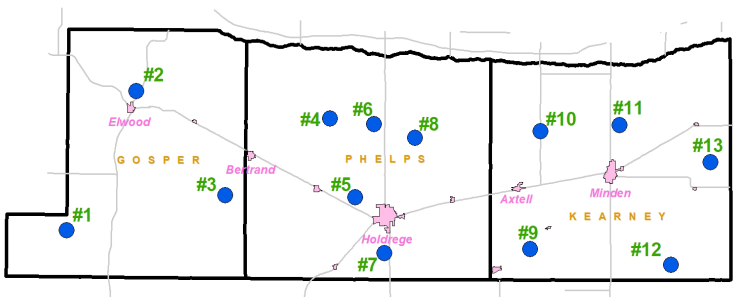
## NAWMN CROP ET INFORMATION

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 28 – Sept 3		Sept 4 – Sept 10	
	Evaporation	Rain	Evaporation	Rain
1	2.20	0.00	1.70	0.63
2	2.00	0.00	1.30	1.12
3	2.10	0.00	1.20	0.60
4	NA	NA	NA	NA
5	1.90	0.00	1.30	0.68
6	1.70	0.00	1.20	0.64
7	1.90	0.00	0.90	0.60
8	1.90	0.00	1.00	0.79
9	2.00	0.00	1.00	1.12
10	1.90	0.00	1.00	0.74
11	1.90	0.00	1.00	0.74
12	2.10	0.00	1.00	0.75
13	1.80	0.00	1.10	0.63



**2023 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 (R5-1/4 Milk Line to R5.8-3/4 Milk Line stage):** A lot of fields are at ½ to ¾ milk line stage. There are some still at ¼ milk line. Black Layer is the end of the kernel growth for the season.

Avg. daily water use from Sept 4 – Sept 10 was 0.10"-0.25".

**Soybeans (R6.5-Full Seed/Yellow Leaf to R8-Full Maturity stage):** R7 is when 0.0 inches of moisture is needed for yield. Irrigated is near or at that R7 stage. A lot of dryland is at R8.

Avg. daily water use from Sept 4 – Sept 10 was 0.12"-0.24".

Sept 4-Sept 10 (12 of 13 NAWMN sites reporting): Average weekly rainfall was 0.75 (range 0.60 to 1.12). Average weekly ET for corn was 0.96 and for soybeans was 1.04.

### CROP ET INFORMATION

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

**TBNRD:** <https://www.tribasinrnr.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

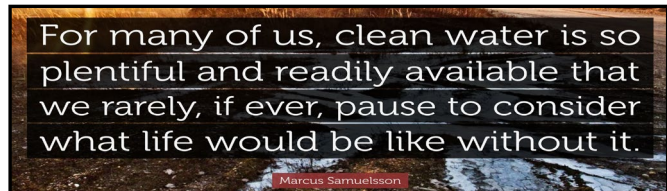
CORN STAGE		DESCRIPTION
R5.5	Full Dent / 1/2 Milk Line	The starch line is 1/2 way down the kernel. Top 1/2 is hard, bottom 1/2 is softer near the cob.
R5.8	3/4 Milk Line	The starch line is 3/4 the way down the kernel, moving towards the cob.
R-6	Black Layer	The starch line has advanced to the cob. Physiological Maturity. Black layer formed, kernel moisture is between 25%-35% moisture. 0.0 inches needed for yield.

SOYBEAN STAGE		DESCRIPTION
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.
R8	Full Maturity	95% of the pods have reached their mature pod color.

## 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>.

	Sept. 14, 2023, 8:00 AM	1 Year Ago
<b>El. &amp; Cap. – Lake McConaughy</b>	<b>3228.3 ft - 48.3%</b>	<b>3217.4 ft - NA%</b>
<b>Inflows to Lake McConaughy</b>	<b>NA cfs</b>	<b>NA cfs</b>
<b>Flows on the North Platte at North Platte</b>	<b>NA cfs</b>	<b>NA cfs</b>
<b>Flows on the South Platte at North Platte</b>	<b>NA cfs</b>	<b>NA cfs</b>
<b>Flows on the Platte at Overton</b>	<b>NA cfs</b>	<b>NA cfs</b>



## 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 31 – Sept 13	May 1 – Sept 13
Elwood 1.81 mi. NW:	0.94	15.45
Loomis 0.2 mi. SW:	0.66	16.25
Holdrege 1.7 mi. W:	0.74	14.21
Minden 7.2 mi. W:	0.87	13.13
Minden 5.8 mi. E:	0.63	10.99

**Average Rain for May-Sept in Holdrege = 16.38 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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