Tri-Basin Irrigator

Volume 24, Issue 8 **August 29, 2024**

Program Information

EQIP: **Sign-up now for 2025 funds.**

CSP: **Sign-up now for 2025 funds.**

NSWCP: **For underground pipe from water source to a pivot replacing gravity irrigation, have your application completed by Thanksgiving for second chance at 2025 funds. Applications must be signed by the owner.**

ENERGY EFFICIENCY GRANT: **Next sign-up deadline is September 30th. For more information, contact Jolene at Rural Development at the Kearney USDA Service Center at 308-455-9840 or at *jolene.jones@usda.gov*.**

Calendar of Events

Sept 2: Labor Day – Gov't offices closed
Sept 2: LAST DAY of Nebraska State Fair
Sept 3: CNPPID Board of Directors Meeting
Sept 5: UNL West Central Fall Field Day – Register at *https://extension.unl.edu/statewide/westcentral/2024-water-crops-and-soil-health-field-day/*
Sept 10: TBNRD Board Meeting
Sept 10-12: Husker Harvest Days

How Much Water did I Apply in 2024?

As irrigation season comes to an end, you can read your flow meters and calculate how much water was pumped in 2024. 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 = 0.95
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*.

Curtis's Column

USDA United States Department of Agriculture
Natural Resources Conservation Service

CSP & EQIP Reminders!

CSP

1. To ensure proper payments are made in a timely manner:
   a. Submit your 2024 documentation ASAP at your local NRCS office:
      i. completed enhancement jobsheets
      ii. signed certification sheets
      iii. supporting records such as soil tests, fertilizers applied, tissue tests, pesticides applied, pesticide EPA registration #'s, water samples, irrigation records, etc.
      iv. other required documentation
   b. All 2024 enhancement job sheets, practices, etc. was sent to contract holders this past spring.
   c. Certification deadline is September 30th. Turning in your documentation ASAP 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.
   d. A letter with the above information was sent earlier to contract holders.
2. If you are planting a cover crop this fall, a seeding sheet was sent to contract holders this past spring.

EQIP

1. 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:
   a. year-end summary charts and individual sensor charts
   b. flow meter readings
   c. rainfall
   d. crop ET information

2024 TBNRD TAPS Team Summary as of 8-28-24

Corn-Soybean Plot:

- Hybrid and Population: Pioneer P1185AM at 34,000
- Yield Goal = 260 bu
- Nitrogen = 144 lbs based off UNL Calculator
- Irrigation as of 8-28-24: 6.3" + 0.9" (3 fertigations) = 7.2"
- Rainfall since planting on 5-7-24: 11.97"


8-12-24 8-26-24

Continuous Corn Plot:

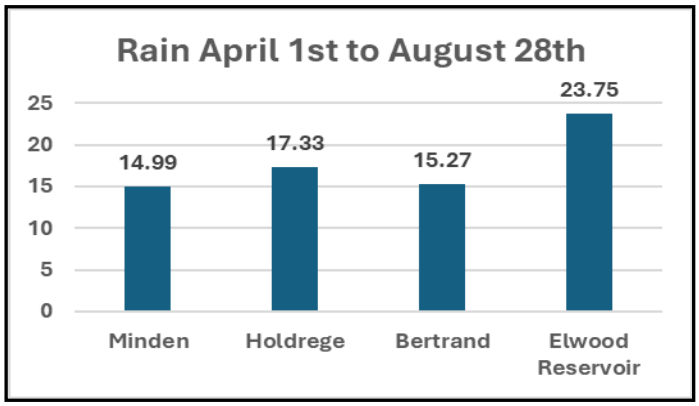
- Hybrid and Population: Pioneer P0622Q at 35,000
- Yield Goal = 260 bu
- Nitrogen = 244 lbs based off UNL Calculator
- Irrigation as of 8-28-24: 6.3" + 1.2" (4 fertigations) = 7.5"
- Rainfall since planting on 5-7-24: 11.97"


8-12-24 8-26-24

CNPPID Notes

Irrigation Season Ending

Monday, August 19th began Central's 6th and final two-week scheduled irrigation run. The headgates to Central's irrigation canals are scheduled to close on Friday, September 6th, with drain down water available for irrigation. During drain down customers will need to coordinate with their Irrigation Service Specialist (ISS) for the availability of water to accommodate their desired deliveries. The following graph shows Central's recorded rainfall from April 1st to August 28th located at Minden, Holdrege, Bertrand, and Elwood Reservoir.



Visit www.cnppid.com or follow @CNPPID on Facebook, Instagram and Twitter for updates throughout the year.

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 (2025'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.

Nebraska Extension Extras

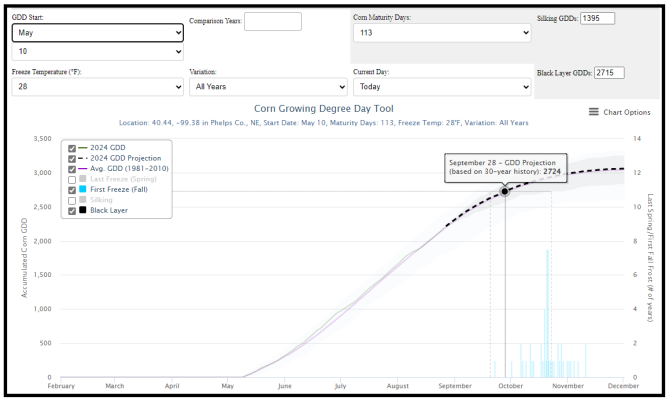
Fall Alfalfa Irrigation

Unlike corn and soybeans, alfalfa is a perennial crop, so roots can reach soil depths of 8 feet or more. Therefore, irrigation can extend through October or possibly November until soil freezes. Fall irrigation can improve growing conditions for alfalfa winter dormancy; plants to build reserves in the root system; and provide higher vigor for Spring re-growth.

Daily water use drops into the fall. Each cutting typically requires 6 to 7 inches of water. Peak water usage is about 1/3 inch per day in July and August but may lower to less than 1/4 inch per day in the late fall due to cooler days. View NebGuide G1778 'Irrigation Mgt and Crop Characteristics of Alfalfa" at: https://extensionpubs.unl.edu/publication/g1778/2007/pdf/view/g1778-2007.pdf.

Corn Black Layering Now

The free online 'Useful to Usable' **Corn GDD** (growing degree days) simulator predicts that 113-days maturity corn, which emerged on May 10, will **black-layer on Sept. 28**, 2024. Thus, corn irrigation season is closing and soon systems can be winterized. Visit online: https://hprcc.unl.edu/agroclimate/gdd.php for your field GPS.



Other free Useful to Usable crop decision tools include: **AgClimate View** (crop yield and historical Corn Belt custom climate data); **Corn Split N** (In-Season nitrogen application); **Irrigation Investment** (Irrigation Equipment Investment); & **Climate Patterns Viewer** (Globe climate).

Stalk Rot Corn Fields Scouting

This past corn and soybean cropping season may have been the most challenging growing season for most of our Tri-Basin Crop Producers ever. This may be reflected in corn stalks having more stalk rots and standability issues.

Therefore, scouting fields to monitor dry-down progress and prioritizing field harvest order may help reduce in-field grain ear losses, reduce the stress of slow harvest, and reduce future corn volunteer problems.

Two in-field stalk rot monitoring methods are advised **"Pinch Test"** and/or **"Push Test".** Regardless of stalk rot decision method chosen, evaluate at least 20 plants in 5 different locations within a field to evaluate % potential lodging based on 100 plants per field.

For the **"Pinch Test"** check stalk firmness by pinching the lower internodes near the ground between your thumb and forefinger. If stalk crushes easily, then it can be assigned as a potential lodged stalk.

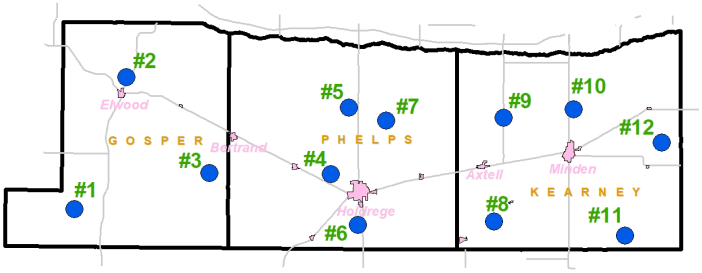
For the **"Push Test"** push the corn plant at shoulder height approximately 30 degrees from vertical. Record as lodged if the corn plant pinches over or fails to snap back to vertical position.

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) = Reference ET x Kc

	Aug 12 – Aug 18		Aug 19 – Aug 25	
Site	Reference ET	Rain	Reference ET	Rain
1	1.20	1.54	1.30	0.84
2	1.00	2.15	1.30	0.33
3	1.00	2.21	1.40	0.50
4	1.10	1.10	1.30	0.70
5	1.10	1.02	1.30	0.22
6	1.10	1.60	1.30	1.10
7	1.10	1.35	1.30	0.11
8	1.10	1.52	1.40	0.14
9	1.20	1.10	1.30	0.11
10	1.20	1.32	1.00	0.09
11	1.20	1.80	1.60	0.15
12	1.10	1.89	1.30	0.08



2024 Map of TBAWMN Sites across the Tri-Basin NRD.

Crop Coefficients (Kc)

Corn Stage	Kc	Soybeans 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 (R4-Dough stage to R5.8-3/4 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 19 – Aug 25 was 0.11"-0.25".

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 19 – Aug 25 was 0.16"-0.25".

Aug 19-Aug 25 (12 of 12 TBAWMN sites reporting): Avg weekly rainfall was 0.36 (range 0.08 to 1.10). Avg weekly ET for corn was 1.23 and for soybeans was 1.391.

Crop ET Information

TBAWMN Sites: https://www.tribasinnrd.org/tbawmn

CropWatch: https://cropwatch.unl.edu/gdd-etdata

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

CORN STAGE		DESCRIPTION
R5	1/4 Milk Line	All or nearly all kernels are dented. 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 (start outside and work towards the cob).
R5.5	Full Dent - 1/2 Milk Line	The starch line is 1/2 way down the kernel. Top outer 1/2 is hard and bottom inner 1/2 is softer near the cob.
R5.8	3/4 Milk Line	The starch line is 3/4 the way down the kernel working 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.

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 29, 2024, 8:00 AM	*1 Year Ago*
El. & Cap. – Lake McConaughy	**3230.2 ft - 50.5%**	**3230.4 ft - NA%**
Inflows to Lake McConaughy	**1290 cfs**	**642 cfs**
Flows on the North Platte at North Platte	**419 cfs**	**1340 cfs**
Flows on the South Platte at North Platte	**159 cfs**	**225 cfs**
Flows on the Platte at Kearney	**357 cfs**	**52.0 cfs**

Have a Great Labor Day Weekend!!!

Enjoy the youtube video link below.

Forty Hour Week (For A Livin') - by Alabama
https://www.youtube.com/watch?v=S-G2J3RzURA

Websites of Interest

NRCS Nebraska	*www.ne.nrcs.usda.gov*
Farm Service Agency	*www.fsa.usda.gov*
TBNRD Home Page	*www.tribasinnrd.org/*
Central Irrigation District	*www.cnppid.com/*
UNL Cropwatch	*cropwatch.unl.edu*
UNL Extension	*extensionpubs.unl.edu/*
K-State SDI Website	*www.ksre.ksu.edu/sdi*
No-till On The Plains	*www.notill.org*
Soil Health:	*www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/*
NE State Irrig Assoc	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 15 – Aug 28	May 1 – Aug 28
Elwood 1.81 mi. NW:	**1.26**	**16.21**
Loomis 0.2 mi. SW:	**2.30**	**18.01**
Holdrege 1.7 mi. W:	**1.41**	**14.69**
Minden 7.2 mi. W:	**0.54**	**12.28**
Minden 5.8 mi. E:	**0.86**	**14.01**

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. ****

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
308-995-6688

Nebraska Extension

1308 2nd 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