Tri-Basin Irrigator

Volume 21, Issue 3 **June 12, 2025**

Program Information

EQIP: **Contracts are being obligated for 2025 funds. More contracts will be obligated as funds become available. Sign-up now for 2026 funds to ensure not missing the cutoff date.**

CSP: **Contracts are being obligated for 2025 funds. More contracts will be obligated as funds become available. Sign-up now for 2026 funds to ensure not missing the cutoff date.**

NSWCP: **New funds come July 1st. Get your irrigation applications in by August 31st for first chance at the irrigation funds. Flow meters and non-irrigation applications are approved monthly.**

ENERGY EFFICIENCY GRANT: **The next application deadline is September 30th. Financial assistance is for converting gravity systems to pivots or SDI, and natural gas/propane/diesel engines to electric motors, well rebowls, etc. 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

June 12: TBNRD Board Meeting – Moved from June 18
June 14: Flag Day
June 15: Father's Day
June 19: Juneteenth – Banks & Gov't offices closed
July 7: CNPPID Board of Directors Meeting

Water Applied per Pivot Circle???

How much water are you actually getting to the crops with one circle of the pivot? The answer to this question starts with your flow meter. With a propeller type flow meter, you need to time the odometer to get a more accurate pumping rate.

I have worked up two examples below. One example is for a flow meter that reads in gallons and the other is for a flow meter that reads in acre-inches. In these examples we will only work with the acres under the nozzles since that's where the majority of the crop is located.

In these two examples, the end gun is off. One pivot circle takes 3 days. We will use 90% nozzle efficiency (new pivot).

Ex. 1 (Flow Meter reads in gallons):
Timed 7000 gallons over 10 minutes = 700 gpm
700 gpm x 72.0 hours (3 days) x 60 min/hr = 3,024,000 gal
3,024,000 gal / 27154 / 120 acres (nozzles) = 0.928 in
0.928 in x 0.90 efficiency = 0.835 in applied to the crop.

Ex. 2 (Flow Meter reads in acre-inches):
Timed 0.25 ac-in over 10 minutes = 0.025 ac-in per minute
0.025 ac-in x 72.0 hours (3 days) x 60 min/hr = 108 ac-in
108 ac-in / 120 acres (nozzles) = 0.90 inches
0.90 inches x 0.90 efficiency = 0.81 inches applied to the crop.

If you would like to know how much water you are applying and do not have a flow meter OR just have some questions about this, you can call Curtis Scheele at 308-995-6121, Ext. 3.

Curtis's Column

Investing in Soil Moisture Sensors

Soil moisture sensors are a great tool for your irrigation scheduling. However, there are things one should know about 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. This is where you learn. If you don't get 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, then move on to someone else.
- Maybe some company's 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 lines they have set. Dig in so you know. These can be changed to your liking.
- Some company's have numbers that don't relate to percent moisture. Somebody knows what they represent, so quiz your dealer.
- 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. Dealers don't want to ruin your crop or they will ruin their business. They will not short your. Push the limits and learn.

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

Soil Moisture Conditions – Update from Last Issue!!!

In the last issue I talked about soil moisture on a couple of pivots northwest of Holdrege. After having installed soil moisture sensors on 11 pivots across the Tri-Basin NRD and reading the moisture levels on Friday, May 30th, the following table shows the average moisture at the varying depths. We had an average of 1.17 inches of rain since these readings.

Some pivots were 100+% through all 4 feet and others were not. Many variables play into this from inches of rain received prior to the readings and how much water was applied this spring through the pivot. Water applied could depend upon the crop for 2025, corn or soybeans. Another factor would be how much did these fields dry down prior to crop maturity last fall. And finally, our own irrigation management strategies.

As of Friday, May 30, 2025 *11 Pivots - No-till Soybeans (4) - No-till Corn (7)* *Holdrege Silt Loam soil (2.25 inches per foot)*	
Soil Depth	**Average 11 Pivots**
1 foot	100 + %
2 foot	100%
3 foot	91%
4 foot	87%
4 ft. avg.	93%

CNPPID Notes

Scheduled Irrigation Begins and Intentional Groundwater Recharge Delivered

The 2025 scheduled irrigation season began Monday June 9th. Contact your Irrigation Service Specialist for any desired deliveries.

Last week The State of Nebraska Department of Natural Resources (NeDNR) issued Central an approved excess flow notice allowing Central to divert and convey over 2,300-acre feet of surface water for intentional ground water recharge to Elwood Reservoir, Victor WPA, Linder WPA, and Johnson WPA.

Central has two long-term intentional ground water recharge agreements with the Platte River Recovery Implementation Program (PRRIP) and The Nebraska Department of Natural Resources (NeDNR). These intentional ground water recharge agreements allow Central to divert excess flows (ie…floodwater) from the Platte River into; Elwood Reservoir, PRRIP's Cottonwood Ranch and five US Fish and Wildlife Service Waterfowl Production Areas (WPAs); Funk, Johnson, Linder, Cottonwood, and Victor. During the non-irrigation season Central's irrigation canals are also able to be included for intentional ground water recharge sites.

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

Tri-Basin NRD News

Chemigation Reminder

Do you plan to apply fertilizer or ag chemicals to your fields through your center pivot or drip irrigation system? If so, you must have a chemigation permit from Tri-Basin NRD for each injection point. Call TBNRD at 308-995-6688 for more information about the permitting process.

If you already have chemigation permits, it is a good idea to check over your safety equipment at least once a year to make sure all the equipment is in working order.

In the TBNRD chemigation safety equipment inspections are required every three years. At the inspection, the well and irrigation system need to start and operate at normal pressure for at least one minute. Then the following will be checked:

- water discharges from low pressure drain & stops as system's pressure increases,
- 20 ft of hose attached to low-pressure drain to carry contaminated water away from well, and
- chemical injection line check valve is free of leaks.

During shutdown of the system:

- injection pump shuts off when system shuts off,
- air is drawn into pipeline through vacuum relief valve,
- irrigation pipeline check valve is watertight, and
- water discharges from low pressure drain & then stops (if pipeline check valve is not leaking).

Nebraska Extension Extras

Wheat Stem Maggot in Corn

Been seeing and hearing of some wheat stem maggot in corn for some fields where corn was planted green into rye. While I see this to a small extent each year, the last time we heard widespread reports was in 2017 (photos and info. at: https://jenreesources.com/2017/06/05/corn-concern-in-wheatrye-cover/. Symptoms include the corn whorls of plants looking wilted. Pulling out the whorl and carefully unfurling it may reveal the light-green maggot. Some key points: the maggot will move from dying rye or wheat into healthy corn. It will not move from plant to plant in corn unless the entire corn plant dies. What we have normally seen is the maggot kills the main stem of the corn plant; however, the plant produces tillers which then produce ears (not typical tiller ears). Because of that, replanting is not recommended. Our Extension Entomologists also don't recommend spraying an insecticide once the maggots are in the whorls because they won't have activity against the maggots inside the corn. There are no published thresholds for the maggot once it gets into the corn plant. Here's an article UNL researchers published on timing and use of insecticides in cover crop/corn systems: https://www.mdpi.com/2075-4450/13/4/348.

By Jenny Brhel: Nebraska Extension Educator from York

Weed Management Field Day

Agenda

8:30 AM – Registration – Coffee and Rolls
9-10 AM – Demo of Projects for Weed Control in Soybean
10:15-Noon – Demo of Projects for Weed Control in Corn and Sorghum
Noon-1 PM – FREE Lunch and UNL Dairy Store Ice Cream
1 PM – End of Field Day

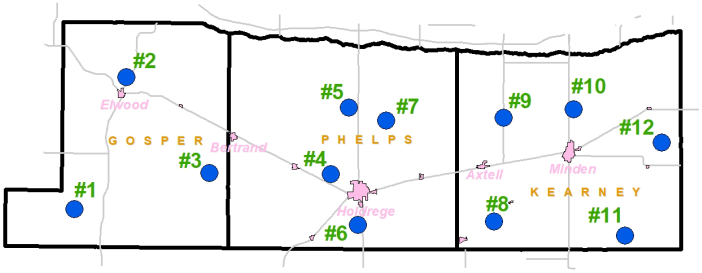
Register at: https://agronomy.unl.edu/extension-outreach/field-days-and-workshops/nebraska-extension-weed-management-field-day/weed/

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

	May 26 – June 1		June 2 – June 8	
Site	Reference ET	Rain	Reference ET	Rain
1	1.40	0.60	1.10	0.86
2	1.30	0.58	1.10	1.55
3	1.10	0.46	1.30	0.77
4	1.20	0.45	1.30	1.09
5	0.90	0.49	1.00	1.32
6	1.10	0.54	1.40	1.05
7	1.10	0.51	1.20	1.02
8	1.20	0.33	1.00	1.12
9	1.10	0.26	1.30	1.68
10	1.00	0.58	1.20	1.39
11	1.00	0.30	1.20	0.74
12	1.00	0.26	1.20	1.44



2025 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 (V2-2 Leaf to V10-10 Leaf stage): At V6, the determination of kernel rows per ear begins which is strongly influenced by hybrids, the growing point and tassel are above ground, and the stalk is beginning to elongate. Nutrients and water are in greater demand starting at 10-leaf.

Avg. daily water use from June 2 – June 8 was 0.01"-0.14".

Soybeans (V1-1st Node to V5-5th Node stage): Nitrogen-fixation begins at V2-V3. By V5, the lateral roots will completely reach across 30 inch rows.

Avg. daily water use from June 2 – June 8 was 0.03"-0.14".

June 2-June 8 (12 of 12 TBAWMN sites reporting): Average weekly rainfall was 1.17 (range 0.74 to 1.68). Average weekly ET for corn was 0.45 and for soybeans was 0.75.

Crop ET Information

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

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

Texting: Sasha Hahn at TBNRD: 308-995-6688

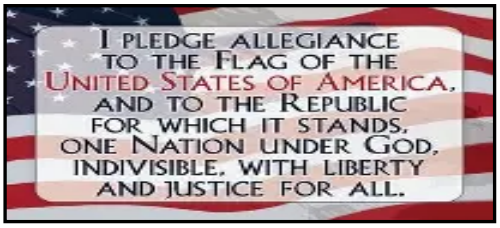
CORN STAGE		DESCRIPTION
V2	2 Leaves	Leaf stage is defined by number of leaves with visible collars. The collar is a discolored line where the leaf meets the stalk. This line circles the stalk. TIP: Mark the 6th leaf or a higher leaf by cutting a notch in it or some other way so as to know that leaf number. 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.
V8	8 Leaves	
V14	14 Leaves	

SOYBEAN STAGE		DESCRIPTION
V2	Second Node	V2 has 2 nodes on main stem, each with a trifoliate leaf with unfolded leaflets (leaflet edges are no longer touching). (Plant has 3 nodes total: 1 unifoliate + 2 trifoliates)
V5	Fifth Node	V5 has 5 nodes on main stem with 5 trifoliates. (6 nodes total: 1 unifoliate + 5 trifoliates)
R1	Beginning Bloom	At least one open flower is present at any main stem node.

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.

	June 12, 2025, 8:00 AM	*1 Year Ago*
El. & Cap. – Lake McConaughy	**3234.3 ft - 55.3%**	**3240.4 ft - NA%**
Inflows to Lake McConaughy	**721 cfs**	**665 cfs**
Flows on the North Platte at North Platte	**1070 cfs**	**1100 cfs**
Flows on the South Platte at North Platte	**226 cfs**	**218 cfs**
Flows on the Platte at Kearney	**1600 cfs**	**1420 cfs**



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/
Drought Monitor	https://droughtmonitor.unl.edu/nadm/Home.aspx
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:	May 29 – June 11	May 1 – June 11
Elwood 1.81 mi. NW:	**2.10**	**4.66**
Loomis 0.2 mi. SW:	**1.77**	**3.68**
Holdrege 1.7 mi. W:	**1.71**	**2.75**
Minden 7.2 mi. W:	**2.35**	**3.60**
Minden 5.8 mi. E:	**2.39**	**5.01**

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. ******

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

Free

ET Data

Texting Service

A texting service for ET Data replaced the Water Use Hotline.

ET Data (Evapotranspiration Data) can be useful in making decisions about your irrigation, fertilizer and chemical application schedule. Texts are sent Monday through Friday from June 1st to August 31st. The texts contain:

Daily (D) and Future 3 Days (F3d) estimated water use for both Corn and Soybeans (Beans) at three locations across the district: Holdrege 5N (Hld), Axtell 5NE (Axt) and Smithfield 2E (Smfld).

Additional Weekly Text for all three locations includes: Weekly Precipitation (Wk Precip), Corn Growing Degree Days (Corn GDD), and Beans Growing Degree Days (Beans GDD)

To Subscribe:

- **Scan the QR Code** and enter your information,
- Text **START** to (308) 216-8188, or
- Call Tri-Basin NRD at 308-995-6688 and request to receive ET Data texting.

Brought to you by

Tri Basin Natural Resources District

EXTENSION

CENTRAL Nebraska Public Power and Irrigation District