

## PROGRAM INFORMATION

**EQIP:** WILDLIFE INITIATIVE APPLICATIONS DUE JULY 5<sup>TH</sup>.

**EPHEMERAL GULLY INITIATIVE APPLICATIONS DUE JULY 19<sup>TH</sup>.**

**CSTWP:** 2019 APPLICATIONS BEING RANKED BY JUNE 21<sup>ST</sup>.

**NSWCP:** NEW FUNDS COME JULY 1<sup>ST</sup>.

**ENERGY EFFICIENCY GRANT:** APPLICATIONS DUE **OCTOBER 31, 2019.** CONTACT KELLEY AT RURAL DEVELOPMENT AT 308-455-9837 OR [KELLEY.MESSENGER@USDA.GOV](mailto:KELLEY.MESSENGER@USDA.GOV).

## CALENDAR OF EVENTS

**JULY 1:** CNPPID BOARD OF DIRECTORS MEETING 9 AM

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

**JULY 9:** TBNRD BOARD MEETING 1:30 PM

**JULY 20-25:** PHELPS COUNTY FAIR

**JULY 25-27:** GOSPER COUNTY FAIR

**AUG 9-11:** KEARNEY COUNTY FAIR

NO-TILL ON THE PLAINS EVENTS: GOTO

[HTTP://WWW.NOTILL.ORG/UPCOMING-EVENTS](http://www.notill.org/upcoming-events) FOR MORE INFO.

- **JULY 30-AUG 1:** TEXAS PANHANDLE BUS TOUR

- **AUG 13:** COMPANION CROP DEMO FIELD DAY @ TIPTON, KS

- **AUG 29:** COMPANION CROP DEMO FIELD DAY @ OSAGE CITY, KS

- **SEPT 10:** SOIL HEALTH FIELD DAY @ ALMENA, KS

## Tool to Determine Crop Water Use – Part 2

In the last issue, you were introduced to the 2019 NAWMN. This network is a tool for area and participating producers to determine how much water their crops are using. The following is an example of how to use this tool.

**Step 1:** You need to know the crop stage of the crop in the field you are working with. There are descriptions at the bottom of page 3 in each issue of this newsletter to assist you. Once you know your crop stage, you can determine your crop coefficient (Kc), also found on page 3. In our example, corn is at 12 leaf, so the Kc equals 0.88.

**Step 2:** Go to one of the two websites found on page 3 of each newsletter (under "NAWMN Sites"). Select an atmometer station nearest your field and determine the amount of evaporation (reference ET) that has taken place. A general map of atmometer locations is shown on page 3. In this example, evaporation will be 1.8 inches for the week.

**Step 3:** Calculate ET or Crop Water Use. Multiply evaporation (reference ET) by your crop stage coefficient (Kc): 1.80 inches \* 0.88 Kc = 1.584 inches used by your corn for the respective week. To calculate average daily water use, divide by 7 days: 1.584 inches / 7 days = 0.226 inches used per day.

**As a side note, when you go to either of these websites, there will be charts showing you weekly crop water use, thus eliminating your need to calculate the weekly use.**

As one gets used to this tool, one can tweak it to better work for their irrigation water management program. Knowing the weather forecast, one can project an estimated crop water use over the next few days.

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

## CURTIS'S COLUMN



### Irrigation Water Management Recordkeeping for Program Participants:

A reminder for those producers receiving financial assistance through EQIP and CSP. **Below is a list of items that you need to be keeping track of during the irrigation season.** This information then needs to be submitted to your local NRCS office in order to receive your payments.

#### **Irrigation reporting requirements include:**

- i. Irrigation system flow meter readings at beginning and end of each irrigation water application.
- ii. Date and depth of irrigation water applied for each application.
- iii. Crop growth stage and crop water use (ET).
- iv. Date and amount of each rainfall event during the growing season.
- v. Available water content of the soil across the root zone.
- vi. Field notes that document periodic irrigation scheduling decisions.
- vii. Field location(s) of soil moisture monitoring site(s) with an explanation of why each site was chosen.
- viii. Soil moisture content displayed in graphical format for each sensor representing different depths across the root zone along with an end of season summary graph, which are both clearly labeled with pertinent soil / water relationship information that includes:
  1. Soil moisture readings as a percentage of available water content over time.
  2. A line that identifies Field Capacity.
  3. A line that identifies the producer defined maximum allowable depletion (MAD).

## CSP Contract Holders Leaf Tissue Samples

For CSP contract holders who need to complete corn leaf tissue samples as a part of your CSP requirements for your 2019 payment, now would be a good time to start planning for this. The following are guidelines:

- 1 leaf sample per 40 acres or less per management system.
- Samples taken prior to tassel.
- 15-20 plant leaves per sample.
- Sample leaves are ear shoot leaves. If samples prior to ear shoot leaf, samples will be the youngest mature leaf (top leaf with a collar).
- Dirty/dusty samples should be lightly rinsed. Over-rinsing can leach out soluble nutrients.
- Samples should be air dried or placed in a paper bag for shipping.
- Contact your lab for additional information on sampling and analysis.



**Crops Status:**

The June 17<sup>th</sup> USDA National Ag Statistics Service (NASS) reports the following data for Nebraska for the week ending June 16<sup>th</sup>. Corn was 98% planted statewide and 90 percent emerged. Soybeans were 91% planted and 73% emerged. The majority of the corn and soybean crop is rated good with some in the fair and excellent range. Only 1 % of both crops in NE were rated very poor and only 3% of both crops rated poor.

Crops condition in our irrigated area follow that assessment; crop stands look good as do the short plants. Holdrege corn GDD are the lowest, using a May 10<sup>th</sup> emergence date, and precipitation is the highest in four years. There are a few low areas that were replanted or will not produce a crop but we do not have to look far to see our relative good fortune to date.

June 18th	2019	2018	2017	2016	Normal
Acc. GDD	578	792	649	659	621
Precipitation	7.43	3.45	4.24	5.72	6.70

Neighboring states June 17<sup>th</sup> statistics are listed below as total crop percentage planted (P) and percentage emerged (E);

IA:	Corn 98% P, 88% E,	Soybeans 89% P, 63% E
SD:	Corn 78% P, 56% E,	Soybeans 70% P, 36% E
KS:	Corn 96% P, 83% E,	Soybeans 74% P, 45% E
MO:	Corn 89% P, 80% E,	Soybeans 57% P, 36% E

NASS Statistics on June 17<sup>th</sup> for our friends further east:

IL:	Corn 88% P, 74% E,	Soybeans 70% P, 50% E
IN:	Corn 84% P, 61% E,	Soybeans 64% P, 38% E
OH:	Corn 68% P, 50% E,	Soybeans 46% P, 29% E

TRI-BASIN NRD NEWS



**Check Chemigation Systems Before Using Them:**

Do you plan to apply fertilizer or ag chemicals to your fields through your center pivot system? If so, you will need a chemigation permit from Tri-Basin NRD for each system you plan to use. Call our office at 1-877-995-6688 for more information about the permitting process.

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

When NRD staff conduct a chemigation safety equipment inspection, the well and pivot system need to be started and operating at normal operating pressure for at least one minute. NRD staff will then check the following:

- Did some water discharge from the low pressure drain and then stop as the system's pressure increased? (Also, remember that you're supposed to have 20 feet of hose attached to your low-pressure drain to carry contaminated water away from the well.)
- Is the chemical injection line check valve free of water leaks? During shutdown of the system, NRD staff check:
- Does the injection pump shut off when the system shuts off?
- Was air drawn into the pipeline through the vacuum relief valve?
- Is the irrigation pipeline check valve watertight?
- Did some water discharge from the low pressure drain and then stop (this will occur if the pipeline check valve is not leaking)?



**Nebraska Cover Crop Selector Tool Now Available:**

A new free online Cover Crop Selector Tool is now available for Nebraska; thanks to the Midwest Cover Crops Council, Nebraska Extension, Natural Resource and Conservation Service (NRCS); and Nebraska cover crops industry leaders. The new Cover Crop Selector Tool

<http://mccc.msu.edu/covercroptool/covercroptool.php> is also linked through the Midwest Cover Crops Council website: <http://mccc.msu.edu>.

Users can input their top three attributes for their desired cover crop(s), and the tool will provide a 1-4 rating of those attributes for individual cover crops and/or cover crop mixes. The tool rates such attributes as: nitrogen source, nitrogen scavenger, soil building, erosion fighter, weed fighter, good grazing, quick growth, lasting residue, and winter survivability. The user can then click on the individual cover crop description and learn specific information, such as planting rates and timing, termination methods and timing, and benefits & disadvantages of growing cover crops.

Further, this Nebraska online tool includes 47 cover crops and six mixes. Later in 2019, Nebraska Extension will release several cover crop mix recommendations for beginning cover crop growers. These resources will guide new growers through cover crop planning and preparation, fall work, spring work, and adjustments needed for cropping rotations with cover crops to improve soil health.

**Weed Management Field Day – Clay Center - June 26:**

New technology / herbicides will be featured during the free Nebraska Extension Weed Management Tour on Wed., Jun. 26 at the South Central Ag Lab located 12.4 miles east of Hastings on Highway 6 OR 4.5 miles west of Hwy 14 south (to Clay Center) & Hwy 6 Intersection.

GPS Coordinates: 40.57539, -98.13776

Registration begins at 8:00 a.m. with corn & soybean tours running from 8:30 a.m. to Noon. Then, a complimentary lunch will be provided thanks to company sponsors (15).

The soybean on-site demonstration tour will feature: herbicides for weed control comparison; weed control and crop safety in XtendFlex soybeans; weed control and crop safety in Alite 27 soybeans; and terminating cereal rye using glyphosate alternatives.

The second tour will be an on-site demonstration of herbicides for weed control in corn. Featured topics will include: comparison of herbicide programs for weed control in corn; control of Roundup Ready/LibertyLink volunteer corn in Enlist corn; control of Johnsongrass and foxtails in popcorn; and evaluating weed control efficacy of DiFlexx or DiFlexx DUO with and without ammonium sulfate (AMS).

Bob Klein, Nebraska Extension West Central Agronomist emeritus, will be the keynote after lunch speaker. His educational topic will be: "What works and doesn't work in managing spray drift?"

This event will conclude at 1:00 p.m. Although it is free to attend, pre-registration is required for break and lunch planning. Register online at: <http://agronomy.unl.edu/fieldday>. If you would like to join the carpool to this event, contact Todd Whitney, Nebraska Extension Crops Educator, by phone 308-995-4222 (office) or 308-995-7272 (cell) or email: [whitney3@unl.edu](mailto:whitney3@unl.edu).

## NAWMN CROP ET INFORMATION

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

$$\text{Inches of Crop Water Use (ET)} = \text{Evaporation} \times K_c$$

Site	June 3 - June 9		June 10 - June 16	
	Evaporation	Rain	Evaporation	Rain
1	1.90	0.78	1.70	0.20
2	1.90	0.78	1.80	0.64
3	1.80	2.52	1.80	0.24
4	1.90	1.78	1.50	0.70
5	1.90	2.95	1.70	0.65
6	1.70	0.92	1.50	0.65
7	1.80	1.08	1.80	0.35
8	1.90	1.04	1.80	0.25
9	NA	NA	NA	NA
10	1.80	1.65	1.90	0.15
11	2.00	0.66	1.90	0.29
12	1.90	1.03	1.80	0.18
13	1.80	1.28	1.60	0.25
14	1.70	1.23	1.90	0.38
15	1.60	1.11	2.10	0.15
16	1.70	0.95	1.90	0.32

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 (V3-3 Leaf to V10-10 Leaf stage):** Roots should be to 18 inches at V6-V8 and 2 feet at V12. With all the moisture this year, they might not be that deep. Soil moisture sensors can help watch this. We want to get them as deep as we can.

Avg. daily water use from June 10 – June 16 was 0.03"-0.20".

**Soybeans (V1-1<sup>st</sup> Node to V3-3<sup>rd</sup> Node stage):** By V3, the primary root and major laterals should be around that 18 inch depth. With all the moisture, who knows. Soil moisture sensors again can tell us at what depths the plants are drawing moisture from.

Avg. daily water use from June 10 – June 16 was 0.04"-0.18".

June 10-June 16 (15 of 16 NAWMN sites reporting): Average weekly rainfall was 0.36 (range 0.15 to 0.70). Average weekly ET for corn was 0.60 and for soybeans was 0.92.

### ET INFORMATION SITES

**NAWMN Sites:**

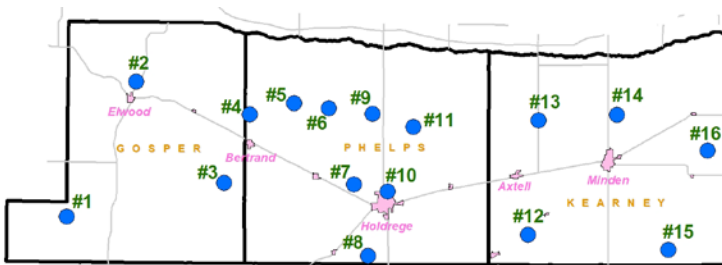
<https://www.cnppid.com/weatheret-data/nebraska-agricultural-water-management-network/>

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

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

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

**Water Use Hotline:** 1-800-993-2507



**2019 Map of NAWMN Sites across the Tri-Basin NRD.**

Corn Stage		DESCRIPTION
V8	8 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>
V10	10 Leaves	
V12	12 Leaves	
Soybean Stage		DESCRIPTION
V(n)	Nth Node	Additional nodes on main stem continue to grow as plants develop. <b>Need to interpolate the Kc value when determining water use.</b>
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 20, 2019, 8:00 AM	1 Year Ago
Capacity of Lake McConaughy	90.5%	NA
Inflows to Lake McConaughy	2993 cfs	1285 cfs
Flows on the North Platte at North Platte	354 cfs	442 cfs
Flows on the South Platte at North Platte	595 cfs	348 cfs
Flows on the Platte at Overton	3093 cfs	2769 cfs

***We need good fathers in our homes whose hearts are full of grace. Who by their love and earnest prayers make home a pleasant place.***  
- Walter E. Isenhour

## WEBSITES OF INTEREST

Soil Health:

[www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/](http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/)

Climate [aqclimatenebraska.weebly.com](http://aqclimatenebraska.weebly.com)  
 NRCS Nebraska [www.ne.nrcs.usda.gov](http://www.ne.nrcs.usda.gov)  
 Central Irrigation District [www.cnppid.com/](http://www.cnppid.com/)  
 TBNRD Home Page [www.tribasinrrd.org/](http://www.tribasinrrd.org/)  
 Farm Service Agency [www.fsa.usda.gov](http://www.fsa.usda.gov)  
 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)

## 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 6 – June 19	May 1 – June 19
Arapahoe 9.8 NNE:	3.14	9.98
Bertrand 6.1 mi. SE:	2.92	9.86
Holdrege 0.99 mi. E:	2.64	11.03
Minden 7.2 mi. W:	2.29	10.07
Minden 5.8 mi. E:	1.32	9.88

**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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