

PROGRAM INFORMATION

EQIP: CONTRACTS CURRENTLY BEING WRITTEN ON PRE-APPROVED APPLICANTS. AS ADDITIONAL FUNDS BECOME AVAILABLE, ADDITIONAL PRE-APPROVALS MAY TAKE PLACE.

CSP: ASSESSING AND RANKING THE 2020 APPLICATIONS. RANKING DEADLINE IS JULY 10TH.

NSWCP: NEW FUNDS COME JULY 1ST SO GET YOUR IRRIGATION APPLICATIONS IN BY AUGUST 31ST FOR FIRST CHANCE APPROVALS.

ENERGY EFFICIENCY GRANT: SIGN-UP DEADLINE FOR 2021 FUNDS IS OCTOBER 31, 2020. FOR MORE INFORMATION CONTACT KELLEY AT RURAL DEVELOPMENT AT THE KEARNEY USDA SERVICE CENTER AT 308-455-9837 OR KELLEY.MESSENGER@USDA.GOV.

CALENDAR OF EVENTS

JULY 3: INDEPENDENCE DAY OBSERVED – GOV'T OFFICES CLOSED

JULY 4: INDEPENDENCE DAY

JULY 6: CNPPID BOARD OF DIRECTORS MEETING

JULY 14: TBNRD BOARD MEETING

Investing in Soil Moisture Sensors

I am going to start this off by saying soil moisture sensors are a great tool to help you in your irrigation scheduling. However, there are things one should know about these 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 and calibration factors, and the number and depth of sensors. I think the consulting support is a huge factor. That's where you learn about the guts of the sensors and the information provided. If you don't get the 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 understand the information provided and what goes into it, then move on to someone else.
- Maybe some company's just 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 line they have set, dig in so you know the basis of what these levels are based on.
- Some company's have numbers that don't relate to percent moisture. They are just stand-alone numbers. Somebody knows what they represent, so quiz.
- 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.

These are a few tips I have come across or can think of. You are investing in soil moisture sensors to save money and to be a better steward of our water resources. Don't waste it!

CURTIS'S COLUMN



United States Department of Agriculture

Natural Resources Conservation Service

Staffing Updates in NRCS Offices Across the TBNRD:

- New: Richard Bennett, SCT, - Elwood – Replaced Steve Beadle – Starts July 5th

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 each irrigation water application.
- iii. Crop growth stage and crop water use (ET).
- iv. Date and amount of each rainfall event.
- v. Available water content of the soil across the root zone.
- vi. Documentation of periodic irrigation 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 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).

Leaf Tissue Samples

For CSP contract holders who need to complete corn leaf tissue samples as a part of your CSP requirements for your 2020 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.

Centrals Irrigation Systems:

The Central Nebraska Public Power & Irrigation District currently serves 107,468.17 acres with surface water. This surface water is sourced from either water that is stored in Lake McConaughy and released downstream for irrigation, or can be natural flow water out of the Platte River.

Water is transferred and delivered through four canal systems, which consist of a combination of open ditches, pipelines, siphons, and lakes. The first system is the Supply Canal that runs from Central's diversion dam near the city of North Platte, to just east of Canaday Steam Plant in northeast Gosper County. The Supply Canal consists of 75.5 miles of open ditch with 26 lakes, ranging in size from less than one acre to more than 2500 acres, and serves 5,704.17 acres.

The second system is the E65 canal which runs from Johnson Lake to northwest of Holdrege, consisting of 106 miles of open ditch, 81 miles of pipelines, 1.7 miles of siphon and serves 41,960 acres.

The third system is the E67 canal which runs from east of Johnson Lake to just north of Smithfield, consisting of 4 miles of open ditch and 18 miles of pipelines and serves 5,767 acres.

The fourth and final system is the Phelps Canal which runs from just east of the Canaday Steam Plant to northeast of Minden, consisting of 240 miles of open ditch, 43 miles of pipelines, 0.2 miles of siphon and serves 54,037 acres. The combination of these canals, pipelines, siphons, and lakes are also used in transferring water for generating electricity, groundwater recharge, recreation, and habitat for many species of fish and wildlife.

Find us at www.cnppid.com or @CNPPID on Facebook, Instagram, Twitter and LinkedIn.

TRI-BASIN NRD NEWS**Groundwater Management Reminders:**

Here are some reminders of reporting requirements in Tri-Basin NRD for Groundwater Management.

Groundwater Quantity Management (Water Use)

Check to see that your meters are working properly and notify the NRD if they are not.

Union Township Reminder: 2020 is the last year of the current allocation period.

If you have questions about these requirements or reports, call Tammy at our office at 308-995-6688.

Groundwater Quality Management (Nitrogen Management/GMA)

Phase II & III: Water samples should be taken now for 2021 Nitrogen Management Crop Reports. If you have questions about these requirements or reports, call Pat at our office at 308-995-6688.

Water Quality Sampling: You might see NRD Staff collecting water samples around the district.

Chemigation

We are currently scheduling chemigation inspections for new and routine inspections. Inspections are required every 3 years in the Tri-Basin NRD for your system to remain renewable.

If you have problems with your system or make any changes, contact the NRD to have it inspected. If you have questions about these requirements or reports, call Sasha at our office at 308-995-6688.

Yellow Tops / Twisted Corn:

Many irrigated fields have scattered corn plants showing yellow tops or twisted whorls. Although the cause is not well understood, a similar condition occurred in Nebraska during 2012 when rapidly growing corn and soybeans exhibited signs of yellowing (nutrient deficiency) following high wind events.

Officially, the National Weather Service has logged this month as the 2nd hottest and windiest June on record. So, this strange phenomenon may have caused "twisted whorl syndrome." According to Bob Nielsen, Purdue University Corn Specialist, the whorl leaves of impacted plants do not unfold properly, as if the rolled leaf tissue has lost its elasticity or has become "sticky."

Due to the wide-spread occurrence, our strong winds have likely been the primary factor causing the twisted, yellow whorls. Other possible factors, causing similar twisted growth injury, might be cell growth inhibitor (Group 15) or growth regulator (Group 4) herbicides or abrupt temperature changes during rapid crop growth.

The good news is that yield impacts from twisted growth, caused by weather-related conditions, are usually minimal. Soon, the only evidence of these twisted whorls may be a crinkled leaf surface inside the twisted whorl.

2020 Free Insect Light Trap Data:

Free insect crop pest black-light trapping data is currently available from our Nebraska Extension – West Central Research & Extension Center – North Platte and South Central Ag Laboratory – Clay Center locations. Insects will be trapped now through September with light trap data posted five days a week (Monday-Friday).

UV Light Trap counts will monitor: Western Bean Cutworm (WBC); European Corn Borer (ECB); Black Cutworm (BC); Scarabs (May/June Beetles & Chafers); White-lined Sphinx Moth (WS); Army Cutworms (AC); and Alfalfa Webworm. For questions regarding this data, contact Julie Peterson, Extension Entomology specialist at julie.peterson@unl.edu or at 308-696-6704.

Western Bean Cutworms:

Western bean cutworms have one generation per year with moth emergence usually beginning in early July. The emergence may be predicted by calculating GDD (growing degree days). Using this GDD method, moth emergence will likely be 25% (1391 GDD); 50% (1422 GDD); and 75% (1536 GDD). Populations vary from year to year.

After female moths lay white egg masses on corn upper leaf surface whorls, then egg development usually takes five to seven days. Soon after the eggs turn dark purple, the larvae hatch may then feed on the flag leaves and/or move up the plant to the tassel. When pollen shed is complete, larvae then move to ear silks and move into ear tips & feed on corn kernels.

Aerial applications are best timed while the larvae are in the upper tassel. Chemigation applications are most effective when the nozzles are directed from top of tassel to silk height. More information is available in NebGuide G2013 "Western Bean Cutworm in Corn and Dry Beans."

2020 Wheat Varieties Virtual Plot Tours:

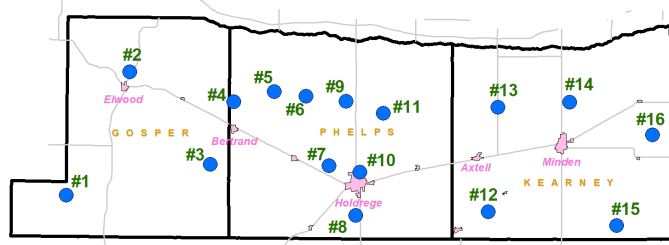
Due to COVID, Nathan Mueller and Todd Whitney, Nebraska Extension educators have recorded South Central - Alma (Harlan county) and Fairbury (Jefferson county) virtual plot tours available on <http://cropwatch.unl.edu>. Terry Woollen's field plot is north of Alma (½ mile west of Highways 183 & 136 junction).

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	June 8 – June 14		June 15 – June 21	
	Evaporation	Rain	Evaporation	Rain
1	2.30	0.47	2.20	0.50
2	2.00	0.83	1.80	0.64
3	2.40	1.05	1.80	0.48
4	2.30	0.85	1.90	1.37
5	NA	NA	NA	NA
6	2.10	0.80	2.00	0.90
7	2.50	0.55	2.00	0.79
8	2.30	0.39	1.80	0.88
9	2.10	0.83	1.90	0.54
10	NA	NA	NA	NA
11	2.30	0.32	1.90	0.49
12	2.30	0.14	2.00	0.24
13	2.30	0.44	1.60	0.26
14	2.20	0.85	1.60	0.17
15	2.30	0.15	1.80	0.16
16	2.00	0.44	1.50	0.23



2020 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 (V6-6 Leaf to V14-14 Leaf stage): Corn should be drawing moisture from 2 feet by 12 leaf. The 15-leaf stage is the beginning of the most crucial period of plant development in terms of seed yield.

Avg. daily water use from June 15 – June 21 was 0.08"-0.32".

Soybeans (V3-3rd Node to R1-Beginning Bloom stage):

Soybeans at R1 should be drawing moisture from 2 feet. Vertical root growth increases sharply at R1. Secondary roots and root hairs proliferate after R1 in the top 9 inches.

Avg. daily water use from June 15 – June 21 was 0.13"-0.28".

June 15-June 21 (14 of 16 NAWMN sites reporting): Average weekly rainfall was 0.55 (range 0.16 to 1.37). Average weekly ET for corn was 1.15 and for soybeans was 1.41.

CROP ET INFORMATION

NAWMN Sites:

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

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

Email: NRCS: 308-995-6121, Ext. 3

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

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

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

Email: CNPPID: 308-995-3555

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. 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.
V12	12 Leaves	
V16	16 Leaves	
Soybean Stage		DESCRIPTION
V4	4th Node	V4 has 4 nodes on the main stem with 4 trifoliates. (5 nodes total = 1 unifoliolate + 4 trifoliates)
R1	Beginning Bloom	At least one open flower is present at any main stem node.
R2	Full Bloom	At least one open flower is present at any one of the two uppermost main stem nodes that have fully developed leaves.

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 25, 2020, 8:00 AM	1 Year Ago
Capacity of Lake McConaughy	82.0%	NA
Inflows to Lake McConaughy	686 cfs	2150 cfs
Flows on the North Platte at Keystone	1950 cfs	75 cfs
Flows on the South Platte at Roscoe	63 cfs	664 cfs
Flows on the Platte at Kearney	2010 cfs	2830 cfs

**HAPPY
BIRTHDAY
AMERICA!!!**



WEBSITES OF INTEREST

Soil Health:

www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/

Climate agclimatenebraska.weebly.com
 NRCS Nebraska www.ne.nrcs.usda.gov
 Central Irrigation District www.cnppid.com/
 TBNRD Home Page www.tribasinrrd.org/
 Farm Service Agency www.fsa.usda.gov
 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

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 11 – June 24	May 1 – June 24
Elwood 0.26 mi. S:	0.85	4.45
Bertrand 6.1 mi. SE:	0.80	6.16
Holdrege 0.99 mi. E:	0.60	5.41
Minden 7.2 mi. W:	0.17	7.67
Minden 5.8 mi. E:	0.21	8.92

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

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 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 2nd Street
 Holdrege, NE 68949

308-995-4222

PO Box 146
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308-785-2390

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