

Tri-Basin Irrigator

Volume 21, Issue 10

September 23, 2021

PROGRAM INFORMATION

EQIP: SIGN-UP DEADLINE FOR 2022 POSSIBLE FUNDING IS NOVEMBER 19, 2021.

CSP: SIGN-UP DEADLINE FOR 2022 POSSIBLE FUNDING IS NOVEMBER 19, 2021.

NSWCP: NEXT ROUND OF APPROVALS FOR IRRIGATION APPLICATIONS NEED TO BE SIGNED BY THE OWNER AND SUBMITTED TO NRCS PRIOR TO DECEMBER 3, 2021.

ENERGY EFFICIENCY GRANT: SIGNUP ANYTIME FOR 2022 FUNDS. DEADLINE IS OCTOBER 31, 2021. 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

- OCT 4: CNPPID BOARD MEETING**
- OCT 12: TBNRD BOARD MEETING**
- OCT 11: COLUMBUS DAY – GOV'T OFFICES CLOSED**

UNL Fertilizer Recommendation Example for 2022!!!

Below is a sample of calculating how much nitrogen can be put on a corn crop on a Holdrege Silt Loam soil and meeting UNL recommendations.

The differences between these columns are:

- Two left columns (left was beans in previous year and right was corn). Also, both are not giving a water credit since sample shows less than 10 ppm in the water.
- Two right columns (left was beans in previous year and right was corn). Also, both are giving a water credit since sample shows more than 10 ppm in the water.

Yield Goal	265	265	265	265
Soil	Med./Fine	Med./Fine	Med./Fine	Med./Fine
Organic M.	3.0	3.0	3.0	3.0
Root Depth	48	48	48	48
Soil Sample	2 Layers	2 Layers	2 Layers	2 Layers
Bottom Surf	8	8	8	8
Bottom Deep	36	36	36	36
Surface PPM	7.0	7.0	7.0	7.0
Deep PPM	3.0	3.0	3.0	3.0
Prev. Crop	02 Soybean	01 Corn	02 Soybean	01 Corn
Irr Inches	6.5	6.5	6.5	6.5
Irr Water PPM	0	0	12	12

Nitrogen Rec **168 lbs** **213 lbs** **150 lbs** **195 lbs**

For CSP payments, see right side of this page.

If you have any questions about this, you can contact Curtis Scheele at 308-995-6121 or email at curtis.scheele@usda.gov.

CURTIS'S COLUMN

 **USDA**
United States Department of Agriculture
Natural Resources Conservation Service

FINAL Tri-Basin Irrigator for 2021!!!

Another season of the Tri-Basin Irrigator has come to a close. I hope that you received helpful information during this past irrigation season. If you wish to provide feedback, comments, or suggestions for next year, contact Curtis Scheele at 308-995-6121, Ext. 3 or at email address curtis.scheele@usda.gov.

For 2020, if you would like to receive this newsletter via email, call me or send me an email.

2022 CSP

***** To ensure you receive your eligible maximum CSP payment in 2022, read the reminders below. *****

Requirements begin with soil samples in fall 2021 and continue with tissue samples in 2022.

A. Fertilizer Management:

- a. Soil samples for N, P, & K this fall **must have surface and deep soil samples**. Ex. Surface is 0-8 inches and deeps 8-36 inches. 0-8 and 8-24 are acceptable.
- b. **One soil sample for every 40 acres.**
- c. Soil samples must be done according to NebGuide G1740. See link for NebGuide: <http://extensionpublications.unl.edu/assets/html/g1740/build/g1740.htm>
- d. Grid samples also need deep samples taken.
- e. 2 out of 5 nitrogen items must be completed for 2022 corn. The 5 options are listed here:
 - i. Use nitrogen inhibitors on 1 or more applications to supply at least 50% of the pre and early post emergent nitrogen.
 - ii. **Plant tissue samples, leaf or stalk, MUST have one sample per 40 acres.** Fewer samples per field will not be accepted.
 - iii. **All** fertilizer is applied no earlier than 30 days prior to planting and 50% or more nitrogen is applied after corn emergence.
 - iv. **All** fertilizer is applied no earlier than 30 days prior to planting annual crops.
 - v. **In-season soil samples per 40 acres.**
- f. **Irrigation water analysis on ALL groundwater fields.**
- g. Manure, if applied, analysis.
- h. Fertilizer must be applied according to UNL recommendations.**
- i. Fertilizer applied must be based upon previous 5-year average yield plus 5%.

B. Loss of Land or Change in Operator Name

- a. Notification of such change **must be provided to NRCS within 60 days of official notification** in order to remain in compliance with CStwP requirements.

The requirements listed above are only a few. For more information on requirements and CSP, contact your local NRCS office.

Off Season Work Begins

Harvest is almost upon us, which means Central's irrigation crews are beginning to prepare for fall projects and off-season maintenance work. Fall and winter work at the district consists of digging and reshaping of the conveyance canals, repairs and replacement of road crossings and bridges, installing and replacing delivery points for irrigation, installing and repairing conveyance pipelines, flow meter repairs, concrete repairs on structures, canal liner repair, tree removal, winterizing delivery points for ground water recharge during the fall and winter months, delivering any excess flows that may become available into the canals and WPA's for ground water recharge, etc. The work that is completed during the fall and winter months allows Central to deliver irrigation water to their customers efficiently and on time during the irrigation season.

Central's Directors approved the pricing to the Water Leasing Agreement with the Platte River Implementation Program for the 2022 irrigation season. **Central customers that want to participate in the Leasing Program can sign up November 1, 2021 to December 15, 2021.** The rate and total accepted acres are the same as the 2021 irrigation season of \$100/acre and a max of 3000 acres accepted.

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

TRI-BASIN NRD NEWS



Plant Conservation Trees

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 us or your local NRCS office to determine the type and number of trees and shrubs you will need. The form for ordering hand plant trees will be available later this fall on our website, www.tribasinnr.org.



2022 Fertilizer Cost Savings

Higher commodity prices are generally appreciated by crop producers. However, as input cost expenses also skyrocket, there is growing concern about profit outlook for the 2022 irrigation season. Beyond equipment upgrades and land rental rates negotiation, 'potential fertilizer cost savings' may be a high priority among irrigators & crop advisors for next year planning.

During times of wide fertilizer and/or grain price fluctuations, crop producers may focus more on 'economic optimum' rates rather than yield maximization. Under this nutrient management strategy, target recommended fertilizer application rates may vary with sensitivity to both grain price (\$/bu.) and fertilizer value (\$/lb.). Although the normal ratio may be 8; final fertilizer rate decisions should be based on realistic expected yields; residual nutrients availability for the next growing season; soil organic matter; fertilizer application timing; and fertilizer prices. Usage rates ideally will increase only as long as returns from higher nutrient rates exceed the added cost of more fertilizer.

Our UNL NebGuide G481, "Setting a Realistic Yield Goal," advises producers to begin their 2022 fertilizer decisions based on realistic target yield goals (about 105 percent of five-year yield averages). The next step for economic planning is accounting for nutrients available for the next growing season by taking fall soil samples within one month after harvest. Ideally, the fall soil nitrate test level will be between 2-5 ppm nitrate-N. If the after-harvest soil nitrate level is lower than 2 ppm, then the crop may have been short nitrogen late in the growing season. However, if the fall post-harvest soil nitrate level is still above 5 ppm nitrate-N; there is potential that nitrogen was over applied; resulting in extra fertilizer costs and potential nitrogen leaching into the soil profile. *(The downside of relying on just fall nitrogen soil tests is that more nutrients may be mineralized during warm winter days. So, it may be helpful to compare some spring soil tests within the same field(s) and determine if predicted crop growing season nutrient availability has changed with more or less nutrients ready for root uptake).*

Next sample irrigation water and calculate potential nutrients available. Based on acre/foot of irrigation water, one ppm is equivalent to 2.72 lbs./acre (0.23 lbs./A per inch). For example, if the irrigation water tested 10 ppm nitrate-N, and 9 inches of irrigation water may be applied; then there would be about 20.43 lbs. of nutrient available for the next growing season (10 ppm x 0.227 x 9 inches = 20.43 lbs./A).

Other UNL Extension information sources include: NebGuide G1335 'Determining Crop Available Nutrients from Manure;,' NebGuide EC117 "Nutrient Management Suggestions for Corn;," and the free Excel "Corn Nitrogen Recommendation Calculator" available at: <https://cropwatch.unl.edu/soils/software>.

UNL Irrigation Water Apps for Fall

The UNL "Water Meter Calculator App" will assist irrigators for calculating the number of inches of irrigation water applied during the past growing season applied in each field over time.

YouTube instructional video link: <http://youtu.be/ygIXBQoE5ZU>

The UNL "IrrigatePump App" calculates pumping plant efficiency powered by diesel, electricity, gasoline, natural gas, or propane and estimates potential savings of system upgrades and adjustments. Youtube link: <http://youtu.be/be3N9rQ4Xuk>

The UNL "IrrigateCost App" computes the annualized costs of owning and operating an irrigation system. Center pivot and gated pipe irrigation can be compared determining fair lease agreement. YouTube link:

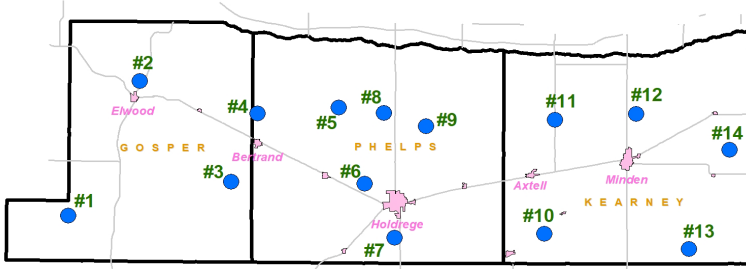
<https://www.youtube.com/watch?v=6Z0ooqipvYI>

TBAWMN 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 (ETr) x Kc

Site	Sept 6 – Sept 12		Sept 13 – Sept 19	
	Evaporation	Rain	Evaporation	Rain
1	1.80	0.00	NA	NA
2	1.40	0.04	NA	NA
3	1.00	0.03	1.30	1.16
4	1.30	0.00	NA	NA
5	1.20	0.00	NA	NA
6	1.40	0.00	NA	NA
7	1.20	0.00	NA	NA
8	NA	NA	NA	NA
9	1.30	0.02	1.20	0.35
10	1.30	0.00	1.40	0.44
11	1.10	0.00	NA	NA
12	1.10	0.00	NA	NA
13	1.10	0.00	1.30	0.28
14	1.30	0.00	1.60	0.30



2021 Map of NAWMN Sites across the Tri-Basin NRD.

Crop Coefficients (Kc)

Corn		Soybeans	
Stage	Kc	Stage	Kc
2 leaf	0.10	Cotyledon	0.10
4 leaf	0.18	1st Node	0.20
6 leaf	0.35	2nd Node	0.40
8 leaf	0.51	3rd Node	0.60
10 leaf	0.69	Beg. Bloom	0.90
12 leaf	0.88	Full Bloom	1.00
14 leaf	1.01	Beg. Pod	1.10
16 leaf	1.10	Full Pod	1.10
Silk – Beg. Dent	1.10	Beg. Seed	1.10
¼ Milk Line	1.04	Full Seed	1.10
Full Dent (½ Milk)	0.98	Yellow Leaf	1.00
¾ Milk Line	0.79	Beg. Mat.	0.90
Black Layer	0.60	Full Mat.	0.20
Full Maturity	0.10	Mature	0.10

CROP STAGE INFORMATION

Corn (R5.8–¾ Milk Line to R6-Black Layer stage): Black Layer signals the end of the kernel growth for the season. Many husks and leaves are no longer green although the stalks may be. Average kernel moisture at R6 is 30-35%.

Avg. daily water use from Sept 13 – Sept 19 was 0.10"-0.18".

Soybeans (R7-Beginning Maturity to R8-Full Maturity stage): R7 is when 0.0 inches of moisture is needed for yield. At R8 (Full Maturity), is when 95% of the pods have reached their mature pod color.

Avg. daily water use from Sept 13 – Sept 19 was 0.03"-0.20".

Sept 13-Sept 19 (5 of 14 NAWMN sites reporting): Average weekly rainfall was 0.51 (range 0.28 to 1.16). Average weekly ET for corn was 0.87 and for soybeans was 0.07.

CROP ET INFORMATION

NAWMN Sites:

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

Tri-Basin NRD: <https://www.tribasinnrd.org/nawmn>

Email: Contact Curtis at 308-995-6121, Ext. 3

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

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

Texting: Contact TBNRD at 308-995-6688

Email: Contact CNPPID at 308-995-3555

CORN STAGE		DESCRIPTION
R5.5	Full Dent - 1/2 Milk Line	The milk or starch line is 1/2 way down the kernel working towards the cob. Top 1/2 is hard and bottom 1/2 is softer near the cob.
R5.8	¾ Milk Line	The starch line is ¾ the way down the kernel.
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 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. 23, 2021, 8:00 AM	1 Year Ago
Capacity of Lake McConaughy	56.8%	NA
Inflows to Lake McConaughy	630 cfs	1610 cfs
Flows on the North Platte at North Platte	347 cfs	679 cfs
Flows on the South Platte at North Platte	135 cfs	104 cfs
Flows on the Platte at Overton	755 cfs	864 cfs

Care less for your harvest than for how it is shared and your life will have meaning and your heart will have peace.

- Kent Nerburn

WEBSITES OF INTEREST

NRCS Nebraska www.ne.nrcs.usda.gov
 Farm Service Agency www.fsa.usda.gov/
 TBNRD Home Page www.tribasinrrd.org/
 Central Irrigation District www.cnppid.com/
 HPRCC hprcc.unl.edu/
 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:	Sept 2 – Sept 22	May 1 – Sept 22
Elwood 0.26 mi. S:	1.62	12.65
Bertrand 6.1 mi. SE:	2.27	17.00
Holdrege 0.61 mi. N:	2.69	19.72
Minden 7.2 mi. W:	1.48	16.39
Minden 5.8 mi. E:	1.14	14.79

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. ***

USDA - Natural Resources Conservation Service

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 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
 308-832-2280, 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

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