

Tri-Basin Irrigator

Volume 18, Issue 10

September 27, 2018

PROGRAM INFORMATION

CSTWP: PRODUCERS WITH COMPLETED 2018 RECORDS CAN SCHEDULE AN APPOINTMENT WITH THEIR LOCAL NRCS TO REVIEW THEIR 2018 RECORDS. PAYMENTS WILL NOT BE MADE UNTIL **COMPLETE RECORDS** HAVE BEEN SUBMITTED AND CERTIFIED.

EQIP: SIGNUP DEADLINE FOR 2019 FUNDS IS PROJECTED TO BE **NOVEMBER 16, 2018.**

NSWCP: FUNDS ARE AVAILABLE FOR IRRIGATION, RANGELAND, AND EROSION CONTROL PRACTICES. STOP BY YOUR LOCAL NRCS.

ENERGY EFFICIENCY GRANT: SIGNUP DEADLINE FOR 2019 FUNDS WILL BE **OCTOBER 31, 2018.** FOR MORE INFORMATION CONTACT KELLEY AT RURAL DEVELOPMENT AT THE KEARNEY USDA SERVICE CENTER AT 308-237-3118, EXT. 4 OR AT 308-455-9837.

CALENDAR OF EVENTS

OCT 1: CNPPID BOARD OF DIRECTOR'S MEETING – 9 AM

OCT 8: COLUMBUS DAY – GOV'T OFFICES CLOSED

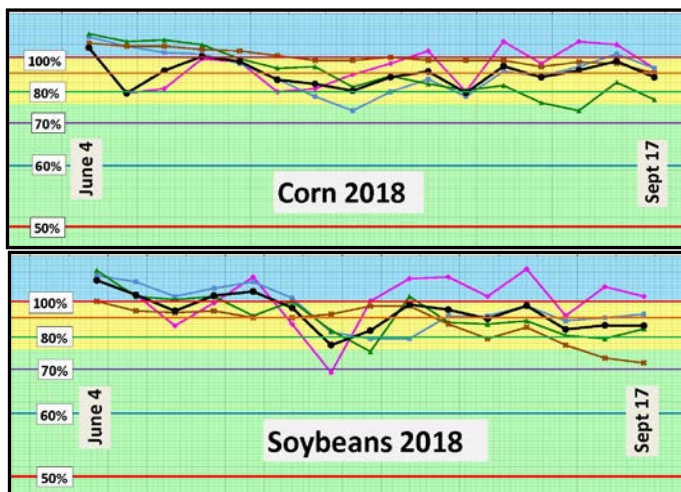
OCT 9: TBNRD BOARD MEETING – 7:30 PM

Ending Soil Moisture Profile in 2018!!!

Using the NAWMN sites to represent the NRD, the charts below show average moisture levels to a 4-foot depth for corn and soybeans on silt loam soils (see the black line on the charts). We started the year at 100% or more moisture. Corn ended the year at 87% moisture and soybeans ended the year at 86% moisture. That equates to 1.26 inches utilized out of the silt loam soil profile. Figuring on a year-end goal of 60%, we left 2.34 inches in the soil.

The 3 or so inches of rain prior to crop maturity made our year-end moisture levels higher than managed for. Rains at the end of the year make a good irrigation manager look bad.

This year was a great year for rain and warmth. Soil moisture sensors would have been wonderful this year to know if one could wait to irrigate or not. They are an excellent tool to know what your moisture levels are up to 3-4 foot of depth.



CURTIS'S COLUMN



FINAL Tri-Basin Irrigator for 2018!!!

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@ne.usda.gov.

For 2019, if you would like to receive this newsletter via email, call me or send me an email.

CStwP Requirement Reminders for 2019 Crop Year Enhancements and Practices!!!

A. Fertilizer Management:

- 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.
- One soil sample per 40 acres.
- Soil samples must be done according to NebGuide G1740. See link for NebGuide: <http://extensionpublications.unl.edu/assets/html/g1740/build/g1740.htm>
- Grid samples also need deep samples taken.
- 2 out of 4 nitrogen items must be completed for 2019 corn. The 4 options are listed here:
 - Use nitrogen inhibitors on 1 or more applications to supply at least 50% of the pre and early post emergent nitrogen.
 - In-season plant tissue analysis.
 - 50% or more nitrogen is applied after corn emergence.
 - All fertilizer is applied no earlier than 30 days prior to planting annual crops.
- Irrigation water analysis.
- Manure, if applied, analysis.
- Fertilizer must be applied according to UNL recommendations.
- Fertilizer applied must be based upon previous 5-year average yields plus 5%.

B. Cover Crop:

- Late Fall/Early Spring plantings – Make sure you have your cover crop seeding sheets.

C. Trees (farmstead and ag associated land):

- Handplants or NRD planted trees must be planned and ordered in Jan.-Feb. in order to be planted in the spring.
 - 25 trees per site planted at a minimum.
 - Pictures of handplants must be submitted to NRCS.

D. Loss of Land or Change in Operator Name

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

2018 Irrigation Statistics:

We have finished calculating the 2018 Central Water Users irrigation statistics. If you are a Central irrigator, please take a bow for a job well done; we are so proud of all of you. Excluding acres enrolled in the 2018 dryland leasing program;

2018 average water use: 4.74 acre-inches/acre

Rainfall was effective this year; gentle and frequent throughout the season, and yet there have been similar seasons in the past when average water use was higher. We attribute this positive change to the increase in upgraded irrigation systems across the District and our producers' ability to expertly manage them. Our producers are up to the challenge of precision management and have been improving soil health for many years through the water-saving change to no-till or slot planting. The April 1st - Sept. 18th seasonal rainfall totals were good but not extraordinary;

Gothenburg: 16.86" Smithfield: 17.67"
 Holdrege 5N: 20.05" Axtell 5NE: 17.51"

Average wind speed through this same period at the Holdrege 5N weather station was 7.35 mph. In many years, heavy rain storms and strong winds come early when the soil profile is already full. Those storms add to the total seasonal precipitation but have zero benefit to crops; actually they cause yield loss from low area flooding and wind injury to plants. Long-term annual rainfall averages are only somewhat useful in water planning and management in our area.

We wish all of you a safe harvest and rising market prices.

TRI-BASIN NRD NEWS



Consider Planting Conservation Trees:

It's 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.tribasinnrd.org.



Fusarium Ear Rot / Stalk Rot:

Fusarium Ear Rot disease usually is associated with corn under crop stress around the silking development stage. This disease is caused by the fungus *Fusarium verticillioides*. However, hail injury can also cause this fungus to occur as white to pink cottony fungal growth. Infected kernels "starburst" patterns may appear on ears at harvest as shown on this photo. Kernels may also have white streaks. Stalk rots develop on the corn plant as well.



Yield losses from Fusarium ear rot are generally minimal; however, there is a concern that these fumonisin mycotoxins can cause human and livestock health problems if present in high enough concentrations.

If significant ear rot or insect damage is present, infected fields should be among the earliest fields harvested. Leaving affected grain in the field will increase the risk of increased fumonisin contamination when late-season rains interrupt harvest.

For safe storage, dry harvested grain to below 15 percent moisture. Under these conditions, the fungus should not spread and fumonisin levels should not increase.

More information regarding corn ear diseases is available on our Nebraska Extension "Corn Disease Profile III – Ear Rot Diseases and Grain Molds" color EC1901 fact sheets or the Purdue Extension, "Diseases of Corn Fusarium Ear Rot" publication BP-86-W

Weather Conditions Update:

Producers are encouraged to use the free online <https://weather.gov> resource. Among the many features provided are the current weather conditions as well as wind forecasts. This may be helpful for field sprayer and manure decisions regarding application timing. Another free UNL resource is <https://weather-readyfarms.unl.edu>.

Free Soybean Cyst Nematode Testing:

FREE Soybean Cyst Nematode Analysis is available through the Soybean Checkoff with the Nebraska Soybean Board. Soil sample bags and forms can be pickup up in our Nebraska Extension offices, or samples can be mailed directly to: Plant & Pest Diagnostic Clinic, 448 Plant Science Hall; Lincoln, NE 68583.

Field testing is recommended every six years after initial confirmation of SCN (soybean cyst nematodes). It is important to sample at the same time of year and with the same crop in the field or following the same crop to get an accurate comparison. For example, if you sampled our field(s) in the fall after harvest when soybeans had been planted in the field six years ago, it is important to resample this fall after soybean harvest. If your rotation is such that soybeans were not planted six years after the initial test was taken; then wait another year of two until you are taking the sample at the same time of year with the same crop growing or having been grown in the field.

If your egg counts are increasing rather than decreasing; and you have planted SCN-resistant varieties, check for a soybean variety that has a different source of resistance or consider rotating out of soybeans for several years, possibly with four or five years of alfalfa.

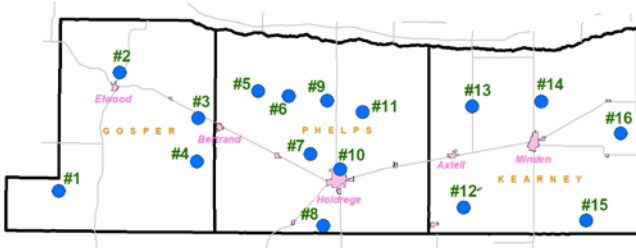
More soybean cyst nematode management information is available on our NebGuide G1383 <http://www.ianrpubs.unl.edu/live.q1383/build.q1383.pdf>.

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	Sept 10 - Sept 16		Sept 17 - Sept 23	
	Evaporation	Rain	Evaporation	Rain
1	NA	NA	NA	NA
2	1.20	0.00	NA	NA
3	1.20	0.00	NA	NA
4	1.50	0.00	NA	NA
5	NA	NA	NA	NA
6	0.60	0.00	NA	NA
7	1.50	0.00	NA	NA
8	NA	NA	NA	NA
9	NA	NA	NA	NA
10	NA	NA	NA	NA
11	NA	NA	NA	NA
12	1.40	0.00	NA	NA
13	1.40	0.00	NA	NA
14	0.70	0.03	NA	NA
15	NA	NA	NA	NA
16	1.10	0.00	NA	NA



2018 Map of NAWMN Sites across the Tri-Basin NRD.

Corn Stage		DESCRIPTION
R5.8	3/4 Milk Line	The starch line is 3/4 the way down the kernal (from outside moving towards the cob).
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.
R-6	Full Maturity	Husks and leaves are no longer green.
Soybean Stage		DESCRIPTION
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.
	Mature	Ready to harvest.

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 (R6-Black Layer to Harvest 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.

Avg. daily water use from Sept 17 – Sept 23 was NA.

Soybeans (R7-Beginning Maturity to Harvest 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 17 – Sept 23 was NA.

Sept 17-Sept 23 (16 of 16 NAWMN sites reporting): Average weekly rainfall was NA (range NA to NA). Average weekly ET for corn was NA and for soybeans was NA.

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

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. 27, 2018, 8:00 AM	1 Year Ago
Capacity of Lake McConaughy	79.8%	NA
Inflows to Lake McConaughy	1180 cfs	2040 cfs
Flows on the North Platte at North Platte	513 cfs	489 cfs
Flows on the South Platte at North Platte	175 cfs	171 cfs
Flows on the Platte at Overton	1620 cfs	1970 cfs



Hoping your turkey is stuffed and your stockings are filled with many blessings this irrigation off-season!!!



WEBSITES OF INTEREST

Soil Health:

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

Climate aqclimatenebraska.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:	Sept 13 – Sept 26	May 1 – Sept 26
Arapahoe 9.8 NNE:	0.00	15.21
Bertrand 6.1 mi. SE:	0.00	20.42
Funk 4.1 mi. NNE:	0.03	16.12
Minden 0.855 mi. W:	0.19	17.33
Minden 8.8 mi. ESE:	0.25	18.07

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@ne.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 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

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