

Tri-Basin Irrigator

Volume 16, Issue 11

September 22, 2016

PROGRAM INFORMATION

EQUIP, CSP, AND ACEP:

EQUIP – SIGN-UP CUTOFF DATE FOR 2017 FUNDS IS OCT. 21, 2016.

NSWCP: APPLICATIONS CAN BE TAKEN AT YOUR LOCAL NRCS OFFICE. THE TRI-BASIN NRD HAS SUSPENDED APPROVAL OF NSWCP APPLICATIONS FOR ALL PRACTICES EXCEPT FLOW METERS AND SOIL MOISTURE SENSORS UNTIL JANUARY 2017, DUE TO A SHORTAGE OF COST-SHARE FUNDS. FLOW METER AND SOIL MOISTURE SENSOR APPLICATIONS WILL CONTINUE TO BE FUNDED MONTHLY. APPLICATIONS MUST BE SIGNED BY THE OWNER. INSTALLATION WORK CANNOT BE STARTED UNTIL APPROVED.

ENERGY EFFICIENCY GRANT: SIGN-UP DEADLINE FOR 2017 FUNDS IS OCTOBER 31, 2016. FOR MORE INFORMATION CONTACT KELLEY MESSENGER AT THE KEARNEY USDA SERVICE CENTER AT 308-237-3118, EXT. 120.

CALENDAR OF EVENTS

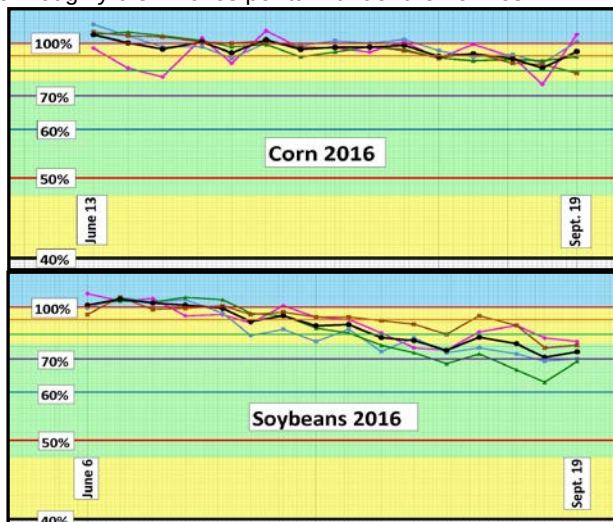
SEPT 28: CROP RESIDUE FIELD DAY – SEE ARTICLE ON PAGE 2.

OCT 3: CNPPID BOARD OF DIRECTORS MEETING – 9 AM

OCT 11: TBNRD BOARD MEETING – 7:30 PM

Ending Soil Moisture Profile in 2016!!!

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. We started the year at 100% plus. Corn as of Sept 19th (¾ Milk Line), was at 93% moisture, thanks in part to the rain Thursday and Saturday. Soybeans ended the year at 72% moisture. The soybeans did not receive as much rain as the corn. The corn average a week ago was at 82% (¾ milk line). Last irrigation says corn will use 1 inch from ¾ milk line. That would equate to ending the year at 72% on paper. The goal is to end the year at 40% moisture to a 4 foot depth. Using 72% to end 2016 equates to 32% moisture left in the soil (2.88 inches). A 50% goal left 1.98 inches and a 60% goal left 1.08 inches in the soil profile. An 800 GPM pivot puts on roughly 0.84 inches per turn under the nozzles.



CURTIS'S COLUMN



FINAL Tri-Basin Irrigator for 2016!!!

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 2017, if you would like to receive this newsletter via email, call me or send me an email. See contact information below.

LAST REMINDER

SAM Registration

RENEW Annually

OR find yourself in contract violation!!!

If you are an entity with a Tax ID Number receiving funds through an EQUIP, CSP, or other contract with NRCS, then your entity has been registered with SAM (System for Award Management). For NRCS, this does not include individuals with Social Security Numbers.

SAM registrations expire annually based on your registration/renewal date. **If you have a contract with NRCS, your entity MUST maintain a valid SAM registration under contract.** That means if you allow SAM to expire, you are in contract violation and would pay back all funds received plus penalties. This is written in the appendix which each contract holder has signed.

This is my last newsletter til May 2017, therefore the reminders I have in my newsletter will not be there during the non-crop season. You do get reminders via email so get them scheduled so you don't forget.

You will get numerous emails from folks who want to renew or confirm your SAM for a fee. You do not need to do this. Use this website to renew: <https://www.sam.gov/portal/SAM/#1>.

I know farming gets busy and these types of things can easily be overlooked. I don't want to see anyone get into contract violation because of missing an expiration date. However, it is ultimately your responsibility to keep SAM updated and your contract in compliance.



Nature is saturated with deity.

– Ralph Waldo Emerson

Blessings in your irrigation off-season!

SDI 15th Anniversary:

Central installed three sub-surface demonstration sites in 2002 with generous help from Nebraska Environmental Trust. The 2016 irrigation season marked the 15th year of service for these systems and we can recommend use of SDI with river water. Each site irrigates a producer-cooperator's 8 to 9 acre pivot corner and all operate at 225 gpm with a 5-HP centrifugal pump that delivers 1/3" per acre every 6 hours. SDI shines in drought conditions, will save water applied in every season on small or odd shaped fields and is practical for large fields too. SDI withstands strong wind; there are no evaporation or drift losses, no chance of getting stuck and no tires, gearboxes or sprinklers to replace. (Center pivots have advantages of their own and are also recommended.) Maintenance costs of our SDIs have been low. Ground squirrel damage was only a minor problem in the first few years. Two tapelines cut too short at installation pulled away from the main lines as the soil settled in. We have replaced 2 pump motors, a few banjo valves, a flexible pipe and above-ground PVC pipe that either got hit by equipment or winter burst for lack of a drain. In 2012, we installed 4 sand media filter tanks to the site north of Funk; they added further automation to the system and we recommend them. One challenge has been the temporary algae blooms that occur in the Phelps canal. The sand media filters allow a continuous irrigation to proceed in these conditions where our spin-clean filters must be changed and the pump restarted. Our SDI began as the only sites in Nebraska using river water; now 17 SDI are connected to our canals. NRCS provides cost-share for SDI and Central will provide \$1,500 in equipment and labor to move or change a turnout to accommodate these systems.

TRI-BASIN NRD NEWS



Irrigation Water Management Forms are Available Now!

We have Irrigation Water Management (Water Use) Forms printed and ready to be filled out! You can stop in our office to pick them up or call us at 1-877-995-6688 to have them mailed to you. As you are finishing up irrigation, remember to note the ending readings on your meters to fill in on your reports.

Drain Your Chemigation Check Valve:

When you are preparing your irrigation systems for colder weather, remember to drain your main line check valve to prevent freezing. This will extend the life of the check valve and may help prevent check valve failure.

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.

Corn Residue Field Day – September 28th!

Nebraska is the #1 ranked irrigated corn producing state; and corn stalks are generally abundant each fall in area fields as a valuable cattle feed resource. Although grazing and baling corn residue may potentially benefit cattle feeders through lowered feed costs, concerns arise regarding potential field soil erosion and compaction due to the grazing or baling.

As a result, Nebraska Extension, cooperating with SARE (Sustainable Agriculture Research & Extension), is providing six free regional "Corn Residue – Cooperators Field Days across Nebraska. The overall educational meeting theme will be: "Understanding the Impacts of Grazing and Baling Corn Residue on Subsequent Crop Yields across Various Soil Types with Different Erosion Potential."

The Buffalo County Extension office in Kearney will provide the West Central Extension location. The two-hour educational meeting on **Wednesday, Sept. 28th**, will kick-off at **5:30 p.m.** with a **FREE supper** in the Extension building at the Buffalo County Fairgrounds – Kearney. Following supper and short presentations at the fairgrounds; the meeting will then move to a cooperator's field 3 ½ miles north and ½ mile east of Odessa, NE. Participants will view crops planted where corn residue was previously grazed, baled, or left in the field. After the in-the-field demonstration discussions, the meeting will adjourn at 7:35 p.m. (See attached flyer)

Although this educational event is free, please R.S.V.P. to Brent Plugge (308-236-1235) OR email: Brent.plugge@unl.edu for the free supper registration and overall meeting planning.

Wheatlage Harvest Date Effects Research:

Corn silage has been a common fall harvested feed resource for area beef and dairy producers. Recently, though, interest has expanded on using wheat silage (wheatlage) for a potential lower cost spring harvested silage. Additionally, the growing wheat fields may provide spring acres for lagoon manure applications through center pivots.

Irrigation provides opportunity for successfully harvesting both wheatlage and corn silage within the same growing season. However, the question is: When is the best time to harvest the wheatlage without reducing the subsequent corn silage harvest? Therefore, Nebraska Extension in cooperation with South Central Feeders (north of Bertrand, NE) conducted a "wheatlage harvest date effects" study in the spring of 2016. Wheat samples were hand harvested to ground level and collected from four cooperator fields with four harvest dates (Apr. 25 – wheat flag leaf visible; May 6 – wheat early to late boot stage; May 18- wheat early heading and Jun. 2 – full heading / early grain fill). Samples tested at Ward Labs for dry matter yield; crude protein content; total digestible nutrients (TDN) content and calculated yields (TDN per acre).

Based on the 2016 growing season, average wheat plant heights increased with each sampling throughout the six-week study as follows: Apr. 25th - 22" tall;; May 6 – 29" tall; May 18th – 35" tall; and Jun. 2 – 42" tall. Overall tonnage (dry matter per acre) also increased with each additional sampling: Apr. 25th – 10 Ton/A; May 10th – 12 Ton/A; May 20th - 20 Ton/A; and Jun. 2 – 26 Ton/A. Although total crude protein and TDN production increase proportional to dry matter yield increases; crude protein % lowered as follows: Apr. 25th – 21% C.P.; May 10th - 18% C.P.; May 20th – 14% C.P.; and Jun. 2 – 10% C.P.

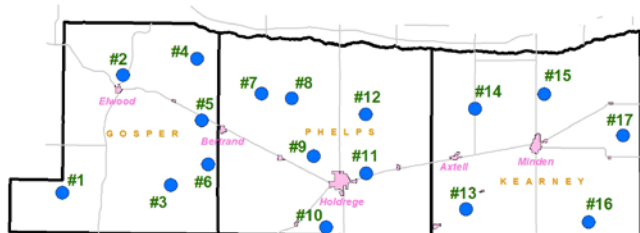
Overall, TDN quality averages also decreased; Apr. 25 – 70% TDN; May 10 – 69% TDN; May 20 – 63% TDN; and Jun 2- 60% TDN.

NAWMN CROP ET INFORMATION

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

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

	Sept 5 – Sept 11		Sept 12 – Sept 18	
Site	Evaporation	Rain	Evaporation	Rain
1	1.20	0.00	0.90	0.25
2	0.80	0.18	1.00	1.15
3	1.00	0.00	NA	NA
4	0.70	0.04	0.80	1.00
5	0.70	0.00	0.80	1.60
6	0.80	0.04	0.30	1.04
7	1.00	0.10	NA	NA
8	1.10	0.05	0.70	1.10
9	1.10	0.35	0.90	1.55
10	0.90	0.36	0.70	0.78
11	1.00	0.30	NA	NA
12	0.70	0.25	0.60	1.20
13	0.55	0.27	1.05	0.62
14	0.70	0.36	0.70	0.39
15	0.80	0.23	0.80	0.39
16	0.70	0.27	0.90	0.54
17	0.90	0.48	0.60	0.49



2016 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 (R5.8-3/4 Milk Line to R6-Black Layer) stage: Black Layer signals the end of 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%. This can vary depending on hybrids and environmental conditions.

Avg. daily water use from Sept 12 – Sept 18 was 0.05"-0.11".

Soybeans (R6.5-Yellowing Leaves to Harvest stage): R8, Full Maturity is when 95% of the pods have reached their mature pod color. 5-10 days are required after R8 before soybeans have less than 15% moisture.

Avg. daily water use from Sept 12 – Sept 18 was 0.02"-0.14".

Sept 12–Sept 18 (14 of 17 NAWMN sites reporting): Average weekly rainfall was 0.86 (range 0.25 to 1.60). Average weekly ET for corn was 0.63 and for soybeans was 0.76.

ET INFORMATION SITES

NAWMN Sites:

<http://www.cnppid.com/news-info/weatheret-data/nebraska-agricultural-water-management-network/>
<https://nawmn.unl.edu/ETdata/DataMap>

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

CNPPID: <http://www.cnppid.com/news-info/weatheret-data/>

Water Use Hotline: 1-800-993-2507

Corn Stage		DESCRIPTION
R5.8	3/4 Milk Line	The starch line is 3/4 the way down the kernel, 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%. 0.0 inches needed for yield.
Soybean Stage		DESCRIPTION
R6.5	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://www.cnppid.com/wp-content/uploads/2016/05/WPelevation_flows.html.

	Sept. 22, 2016, 8:00 AM	1 Year Ago
Capacity of Lake McConaughy	86.3%	NA%
Inflows to Lake McConaughy	2828 cfs	2102 cfs
Flows on the North Platte at North Platte	1687 cfs	946 cfs
Flows on the South Platte at North Platte	185 cfs	281 cfs
Flows on the Platte at Overton	2358 cfs	2176 cfs

To see a man's true power, let him run free with nature. To see a man's true nature, let him run free with power.

- Unknown

WEBSITES OF INTEREST

SAM Registration <https://www.sam.gov/portal/SAM/#1>
 Climate agclimatenebraska.weebly.com
 NRCS Nebraska www.ne.nrcs.usda.gov
 Central Irrigation District www.cnppid.com
 TBNRD Home Page tribasinrnr.org
 Farm Service Agency www.fsa.usda.gov
 UNL Cropwatch cropwatch.unl.edu
 UNL Extension <http://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 <http://nerain.dnr.ne.gov/NeRAIN/docs/report.asp>.

Location:	Sept 8 – Sept 21	May 1 – Sept 21
Arapahoe 6.9 NW:	0.20	11.57
Bertrand 6.1 mi. SE:	0.75	13.74
Funk 4.1 mi. NNE:	0.81	9.08
Minden 0.855 mi. W:	0.61	8.59
Minden 8.8 mi. ESE:	0.94	8.58

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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CORN RESIDUE COOPERATORS FIELD DAY

*"Understanding the Impacts of Grazing
and Baling Corn Residue on Subsequent
Crop Yields Across Various Soil Types With
Different Erosion Potential"*

SEPTEMBER 27 - 28, 2016
&
OCTOBER 20 & 28, 2016

(FREE)



Dates & Locations

Tuesday, September 27, 2016

AINSWORTH

Field 4 miles North on Old Highway 7

Ainsworth, NE 68210

Noon - Lunch

2:00 p.m. - Adjourn

Contact:

Denny Bauer

402-387-2213

Dbauer1@unl.edu

NORFOLK

Northeast Community College

Chuck Pohlman Agriculture Complex

2301 E. Benjamin Ave.

Norfolk, NE 68702

5:30 p.m. - Dinner

7:30 p.m. - Adjourn

Contact:

Denny Bauer

402-387-2213

Dbauer1@unl.edu

Wednesday, September 28, 2016

CLAY CENTER

USMARC

Building 1 Auditorium

NE-18D Spur

Clay Center, NE 68933

1:30 p.m. - Refreshments

3:45 p.m. - Adjourn

Contact:

Jenny Rees

402-362-5508

Jenny.rees@unl.edu

ODESSA

Buffalo County Extension Office

1400 E. 34th St., Kearney, NE 68847

5:30 p.m. - Dinner

7:35 p.m. - Adjourn

Contact:

Brent Plugge

308-236-1235

Brent.plugge@unl.edu

Thursday, October 20, 2016

NEBRASKA CITY

Fire Hall

Intersection of 1st St. and West St.

Julian, NE 68378

5:30 p.m. - Dinner

7:45 p.m. - Adjourn

Contact:

Gary Lesoing

402-274-4755

Gary.lesoing@unl.edu

Friday, October 28, 2016

SCOTTSBLUFF

Lionel Harris Building

Experiment Farm Road

69361 Lionel Harris Rd.

12:30 p.m. - Lunch

2:45 p.m. - Adjourn

Contact:

Karla Jenkins

308-632-1245

Kjenkins2@unl.edu

DISCUSSION TOPICS

(at field site)

(View crops planted into area where corn residue was previously grazed, baled, or left in field)

1. Effect of Grazing and Baling Corn Residue on Corn Yield

2. Effect of Grazing and Baling Corn Residue on Soil Components

3. Survey Results: What Do Crop Consultants and Grain Producers Think About Grazing Corn Residue



N EXTENSION