

PROGRAM INFORMATION

EQIP, CSP, AND ACEP:

EQIP – A TARGETED SIGN-UP CUTOFF DATE FOR 2017 FUNDS IS OCTOBER 21, 2016.

NSWCP: APPLICATIONS CAN BE TAKEN AT YOUR LOCAL NRCS OFFICE. IRRIGATION APPLICATIONS WILL BE REVIEWED FOR APPROVAL AT THE SEPTEMBER TRI-BASIN NRD BOARD MEETING.

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

JULY 17-20: KEARNEY COUNTY FAIR

JULY 24-28: PHELPS COUNTY FAIR

JULY 28-30: GOSPER COUNTY FAIR

AUG 1: CNPPID BOARD OF DIRECTORS MEETING – 9 AM

AUG 9: TBNRD TOUR AND BOARD MEETING – 1:30 PM

AUG 11: COVER CROP FIELD DAY NEAR LEXINGTON – 9:30 AM

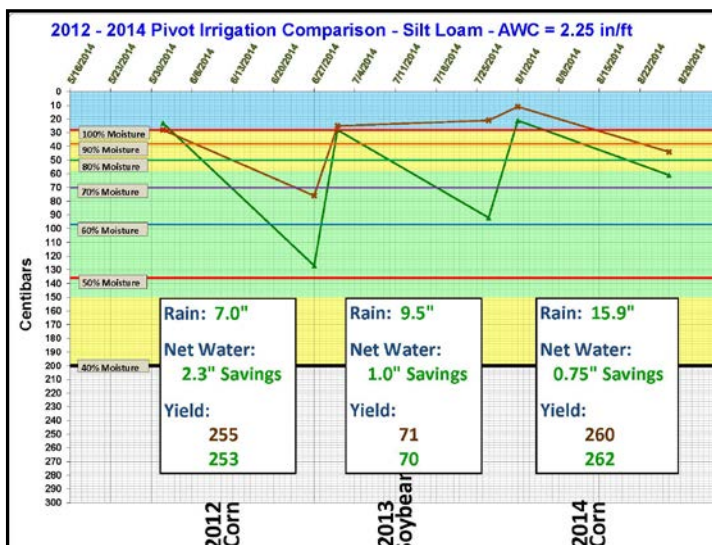
FLYER WILL COME WITH NEXT ISSUE OF NEWSLETTER.

2012-2014 Pivot Irrigation Comparison – More from Issue #5

This comparison is on two pivots on a ½ section farmed exactly the same. It is all no-till. The only difference in the two pivots is how they are managed for irrigation. See chart below.

There is 2 bushel difference on corn in 2012 and 2014. The bushels are reversed. Soybeans has 1 bushel difference. This is a small difference when talking this many bushels total. It's difficult to tie down if irrigation was the cause or not. If it was, let's look at the price to see if it was worth irrigating.

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CURTIS'S COLUMN



2012-2014 Pivot Irrigation Comparison – More from Issue #5:

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On a 130 acre standard quarter section pivot, 2 bushels with \$3.00 corn equals \$780.00 total. As discussed in the last issue, it was determined that average water savings per year was 1.35 inches or roughly 2 quick pivot circles.

Because the corn bushels were reversed, do we know year to year if we will have an increase or decrease of 2 bushels? Let's say an increase. Now the question is, does the \$780.00 pay for those 2 pivot circles? This \$780.00 doesn't include wear on the well, nozzles, etc. Each producer can answer this by knowing how much it costs to run a pivot one circle.

The chart below shows the dollar amount on the same pivot size with \$5.00 and \$7.00 corn. You can use this same concept when calculating for soybeans.

Bushels	Pivot Acres	Corn Price	Total
2	x 130	\$ 7	= \$ 1820
2	x 130	\$ 5	= \$ 1300
2	x 130	\$ 3	= \$ 780

REMINDER!!!

SAM Registration Renewal

Website link located on page 4.

When renewing BEWARE!!!

Official website: www.SAM.gov.

You do not need to pay for this service. I hear from a lot of you that you get emails from spammers willing to renew your SAM for a price and for other things. I've heard from some roughly 15 per month. SAM does send an email reminding you to renew. Make sure you are on the correct site. Why and how they get your emails is beyond me.

Also, just last week, I had a producer renew on the official site and completed the renewal. They then received 2 TEXTs on their cell phone from 2 different numbers stating that they must click the attached link to confirm their registration. In doing so it asked for more info and \$2500.00. They got out. The producer called us and we checked their renewal which was complete. How their number got to these TEXTer's, I have no clue.

BEWARE of any scams. There are legitimate sites and businesses that will do your work for a fee. We also live in a world of scammers.

PLEASE be careful and call your local NRCS, or other government agency you may have a contract with if you have questions or concerns.

Irrigation payback period:

Owning and maintaining in-field irrigation systems and paying water delivery and/or pumping costs only have value if the average yield difference between irrigated and dryland crops pays back more in the marketplace than adding in the irrigation costs. Irrigation systems abound in our area because the economics of irrigated agriculture works; harvesting an irrigated yield from a dryland field would be an exceptionally rare event. If history is any indication of the future, then irrigating to supplement the seasonal precipitation shortfall will be needed in the Tri-County area as far into the future as we can see; sustainable use of the water resource is vital.

Right now, corn and soybean crops are just beginning the reproductive phase of growth and it will be hot, windy and dry. We are moving into the irrigation payback period, where gallons of water can literally create bushels of grain if water is available. Through the reproductive phase and grain fill, crops benefit from ample water without getting an excessive amount. Producers do need to keep some room in soil storage for a rain and space for the carbon/oxygen exchange to occur in the root zone.

The Holdrege silt loam holds about 8" of available plant water in a 3.5 ft. root zone. The management zone is the top half or 4" and leaving an inch of space means water content in a well-managed field will vary by no more than 3" throughout this period; limiting that variation to 2" is even better. There is some additional, temporary storage between field capacity and saturation, but large soil pores holding that water drain quickly.

Please contact us at mtrompke@cnppid.com to join our e-mail group receiving local daily GDD, crop stage and ET (evaporation + crop water use) for corn and soybeans.

TRI-BASIN NRD NEWS



Assistance Available to Treat Phragmites Infestations:

Phragmites is an invasive perennial that is found in wet areas, such as along rivers, ponds, creeks, CRP acres, and sub-irrigated ravines and road ditches. It spreads by both seed and rhizomes, so it can spread tenfold in a single season. It has no forage value for livestock or wildlife.

Phragmites is on Nebraska's Noxious Weed list, which means that landowners are required to treat infestations on their property. The Twin Valley Weed Management Area (TVWMA) has worked diligently over the past several years to combat phragmites along the area's river channels. If the weed is allowed to go untreated on private property, however, the TVWMA's progress will be in vain. The TVWMA, with grant funding from the Nebraska Environmental Trust, is providing assistance to landowners in treating phragmites. If you have phragmites on your property, contact Charles Brooks at the Tri-Basin NRD office, 1-308-995-6688, to find out if you're eligible to have it sprayed free of charge.



Fertilizing High Yield Soybeans:

Newer higher yielding soybean varieties are changing the common strategy to *not* fertilize soybeans. Previous research pegged limited yield response to fertilizing soybeans; and the usual results were that the soybean *Bradyrhizobium japonicum* bacteria in root nodules fixed less nitrogen. Instead of the plants transferring the extra nitrogen into significantly higher yields, the soybeans simply switched to using the supplemental nitrogen and reduced in proportion their in-plant nitrogen fixation. Therefore soybeans traditionally have been labelled as being "lazy nitrogen users" with limited fertilizer response.

However, since soybean genetics and economics have changed, Patricio Grassini, Nebraska Extension Agronomist, initiated five statewide multi-year irrigation high-yielding soybean studies in 2015 to determine new standards for fertilizing soybeans. These "Nebraska Extension On-Farm Research" sites were established to quantify more precisely when soybeans might respond to nitrogen fertilization & when to most efficiently supplement nitrogen. The West Central location is near Smithfield, NE on Dennis Gengenbach's farm.

Although more precise data is still needed, potential highest soybean yield response may occur during three critical developmental stages. The first critical period may be pre-plant. Since soybean roots require over three weeks to start forming nitrogen producing nodules, applying a low rate starter fertilizer (up to 20 pounds per acre) may have long-range yield benefits. University trials have shown up to a 5 bushel per acre yield increase by using up a starter fertilizer on nitrogen-deficient fields (especially in fields with no history of soybean production); and/or where pH levels are limiting root nodulation.

The second important soybean development stage may be R3 (beginning pod production) to R4 (about 60 days after planting). Fertilization during these stages may reduce plant flower and pod abortion and thus increase yields. Finally, the reproduction stage R5 (beginning seed development) to R6 (full seed development) is an efficient nitrogen supplementation stage. It is during this time that the soybeans reach maximum height; set final node numbers; and develop their largest leaf area. This is also the time when the plants reach their peak nitrogen fixation rates.

These University in-field studies may soon provide useful guidelines for timing the best nitrogen applications for events such as chemigations. For irrigators managing for high-yielding soybeans, it is important that plants have all their nutritional needs met. High-yielding (100+ bu./A) soybeans may require at least some extra nitrogen as well as adequate phosphorus, potassium, and other critical elements. Since soybean root nodules are limited on their potential nitrogen fixation during a growing season; higher-yields may require supplemental nitrogen. Sources might include: higher organic matter, manure and/or commercial fertilizers. The biggest challenge may be keeping the soybeans steadily maximizing their nitrogen fixation while at the same time converting supplemental nitrogen into added yield. Details such as proper application timing and avoiding fertilizer leaf burn are important for foliar nitrogen methods applied in late season.

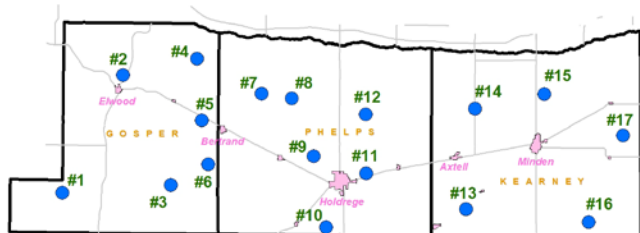
Soil quality is important for all crops; however, soil pH is even more critical for soybeans than corn. Overall soil pH is critical in soybeans for both crop growth and live nodulating bacteria within the root nodules. Ideally, soybean field soil pH should be pH 6.5 – 7.0 with a minimum of pH 6.0 for rhizobia growth. Total nitrogen supplementation rates may be 20 to 40 pounds per acre for higher-yielding soybean varieties.

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 27 - July 3		July 4 - July 10	
	Evaporation	Rain	Evaporation	Rain
1	1.10	2.78	1.50	0.35
2	1.30	1.92	1.70	0.12
3	1.20	1.20	1.70	0.08
4	1.10	1.50	1.60	0.00
5	0.90	1.61	1.50	0.06
6	1.40	2.40	1.40	0.30
7	0.70	0.30	1.60	0.05
8	1.00	0.40	1.60	0.00
9	1.10	0.47	1.70	0.20
10	1.50	0.33	1.60	0.35
11	1.00	0.20	1.70	0.15
12	1.00	0.40	1.40	0.40
13	1.30	0.26	1.50	0.28
14	1.20	0.47	1.60	0.10
15	1.70	0.83	1.50	0.14
16	1.55	0.28	1.85	0.28
17	1.30	0.37	1.60	0.17



2016 Map of NAWMN Sites across the Tri-Basin NRD.

Crop Coefficients (K _c)			
Corn		Soybeans	
Stage	K _c	Stage	K _c
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 (V12-12 Leaf to R1-Silking stage): Silking is the peak water use period for corn. Moisture stress at this time causes poor pollination and seed set. The result will usually be a nubbin.

Avg. daily water use from July 4 – July 10 was 0.18"-0.27".

Soybeans (V5-5th Node stage to R3-Beg. Pod stage):

Environmental stress from R3 through R6 (Full Seed) will reduce yield more than any other time. R4 (Full Pod) is the most crucial period.

Avg. daily water use from July 4 – July 10 was 0.14"-0.24".

July 4–July 10 (17 of 17 NAWMN sites reporting): Average weekly rainfall was 0.18 (range 0.00 to 0.40). Average weekly ET for corn was 1.65 and for soybeans was 1.47.

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
V16	16 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.
R1	Silking	Begins when any silks are visible outside the husks.
Soybean Stage		DESCRIPTION
R2	Full Bloom	One open flower at any of the two uppermost main stem nodes with fully developed leaves.
R3	Beg. Pod	At least one pod of 3/16" length present at any one of the four upper most main stem nodes having a fully developed leaf. It's not uncommon to see longer pods at the lower nodes.
R4	Full Pod	At least one pod of 3/4" length present at any one of the four upper most main stem nodes having 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://www.cnppid.com/wp-content/uploads/2016/05/WPelevation_flows.html.

	July 13, 2016, 8:00 AM	1 Year Ago
Capacity of Lake McConaughy	97.7%	NA%
Inflows to Lake McConaughy	2334 cfs	1948 cfs
Flows on the North Platte at North Platte	1118 cfs	308 cfs
Flows on the South Platte at North Platte	619 cfs	2155 cfs
Flows on the Platte at Overton	894 cfs	1927 cfs

We must beware of packing our schedules by saying "yes" to things which mean "no" to our families. Now is the time to take time. There is no other.

- R. Kent Hughes

WEBSITES OF INTEREST

SAM Registration www.sam.gov
 Climate agclimatenebraska.weebly.com
 NRCS Nebraska www.ne.nrcs.usda.gov
 Central Irrigation District www.cnppid.com
 TBNRD Home Page tribasinprd.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:	June 30 – July 13	May 1 – July 13
Arapahoe 6.9 NW:	2.28	6.06
Bertrand 6.1 mi. SE:	1.22	7.71
Funk 4.1 mi. NNE:	0.47	4.72
Minden 0.855 mi. W:	0.32	3.36
Minden 8.8 mi. ESE:	0.47	3.25

Average Rain for May-July in Holdrege = 11.32 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
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