PROGRAM INFORMATION

EQIP and CSTWP:
CSTWP – PRODUCERS WITH COMPLETED 2018 RECORDS CAN BRING THEM TO THEIR LOCAL NRCS FOR THEIR 2018 PAYMENT.

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


CALENDAR OF EVENTS
SEPT 3: LABOR DAY – GOV’T OFFICES CLOSED
SEPT 4: CNPPID BOARD OF DIRECTOR’S MEETING – 9 AM
SEPT 11: TBNRD BOARD MEETING – 7:30 PM

How much water did I apply in 2018?
As irrigation season comes to an end, you can read your flow meters and calculate how much water was pumped in 2018. Flow meters vary as to their unit outputs (ac-in * 0.01, gallons * 100, ac-ft * 0.001, etc.). You simply subtract your beginning year reading from the ending year reading to get gross water pumped. See chart below to convert flow meter units to inches. Gross inches pumped is what’s used for allocations, irrigation reports, etc. For your own information, you can multiply gross inches pumped by an efficiency factor to calculate net water applied to the crop.

How to Calculate Gross Inches Pumped
1. Acre-Inches / Acres = Inches Pumped
2. Gallons Pumped / 27,154 / Acres = Inches Pumped
3. (Acre-Feet * 12) / Acres = Inches Pumped

How to Calculate Net Inches Applied to the Crop
4. Inches Pumped x Efficiency Factor* = Net Inches Applied
   *Efficiency Factors
   - Subsurface Drip Irrigation = 0.95
   - Pivot - low pressure drops = 0.90
   - med. & low pressure impacts = 0.85
   - high pressure = 0.80
   - Surge Valve = 0.80
   - Gated Pipe - with reuse = 0.7
   - without reuse = 0.5

If you have any questions, you can call Curtis Scheele at 308-995-6121, Ext. 3 or email him at curtis.scheele@ne.usda.gov.

CSP and EQIP Contract Holders!!!
2018 Certification and Records need completed.

CSP: All CSP contract holders need to certify 2018 contract obligations and choose payment for calendar year 2018 or 2019. If wanting paid in 2018, all contract obligations need to be certified prior to Thanksgiving in order to have payment forms submitted by December 7th. We highly recommend getting appointments prior to harvest in order to get this done. Any obligations changed or not completed may require contract modifications prior to payment. Thus, there is no guarantee that the payment will be made in 2018 if completed records aren’t submitted in a timely manner to allow this to take place. Priority will go to those producers who have filled-out all the necessary forms for payment. Contact your local NRCS offices for more information.

EQIP/AWEP Irrigation Water Management (IWM) Records:
- All EQIP contract holders with irrigation practices need to submit their 2018 irrigation records to their local NRCS office. Payment forms will get signed and submitted after complete records have been submitted. Records include crop grown, soil moisture levels, flow meter readings, crop ET’s, and rainfall.

Table 1: This table shows average soil moisture levels at Black Layer for corn on silt loam soils for each of the last seven years across the Tri-Basin NRD. It also shows average rainfall from 1/2 milk line to Black Layer.

<table>
<thead>
<tr>
<th>Year</th>
<th>Average Moisture to 4 Feet at Black Layer</th>
<th>Average Rainfall from 1/2 Milk Line to Black Layer</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>72%</td>
<td>0.21 Inches</td>
</tr>
<tr>
<td>2016</td>
<td>81%</td>
<td>1.56 Inches</td>
</tr>
<tr>
<td>2015</td>
<td>74%</td>
<td>0.53 Inches</td>
</tr>
<tr>
<td>2014</td>
<td>88%</td>
<td>1.25 Inches</td>
</tr>
<tr>
<td>2013</td>
<td>72%</td>
<td>0.73 Inches</td>
</tr>
<tr>
<td>2012</td>
<td>62%</td>
<td>0.36 Inches</td>
</tr>
<tr>
<td>2011</td>
<td>72%</td>
<td>0.64 Inches</td>
</tr>
<tr>
<td>Average</td>
<td>74%</td>
<td>0.75 Inches</td>
</tr>
</tbody>
</table>
Irrigation Scheduled Season Nears End:
The 2018 irrigation season is all but in the books; where has this time gone? Central’s 12-week irrigation schedule ends this Sunday, September 2nd. Water will be available for a short time after that if needed, however with these few cool days and rain in the forecast, the 2018 crops may finish without our help. Through Wednesday, August 29th, UNL calculations show corn GDD at 2,382 for fields emerging May 10th near Holdrege, this is ahead of 2015-2017 seasons and ahead of normal. We are adding approximately 15-25 GDD/day at this time on corn. For corn varieties needing 2,500 GDD, May 10th fields should reach black layer next week. Late season varieties will need some additional time. You can track daily GDD on our weather page at: https://www.cnppid.com. Once a crop black layers, the water conduit to the seed is broken; plant water cannot enter the grain kernels. This physiological mature state can be easily seen.

Source: www.pioneer.com

Yellow Woolly Bear Caterpillar:
If the high numbers of adult moths and yellow insect egg masses laid this fall are an indication; there may be soon high numbers of yellow woolly bear caterpillars. Although woolly bear larvae may move from weedy broadleaf field edges into soybean fields, Bob Wright, Nebraska Extension Entomologist, says that defoliation is almost always overestimated. Further, soybeans have a great capacity to compensate for insect defoliation especially if soybean canopies are large. And, historically woolly bear caterpillar populations tend to crash due to insect-attacking fungi. Warm humid nights in August usually favor fungi growth which naturally kill the woolly bear invaders.

- Moth
- Eggs
- Larvae

The banded woolly bear caterpillar pictured on the upper right has been portrayed as a visual indicator for predicting cold severity with the approaching winter. However, climate studies have concluded that the width of the orange or reddish brown center insect band is more linked to the previous warmth of summer or extended fall heat; rather than predicting the upcoming winter. Wider bands usually link to hotter summers.

Guidelines for control of soybean-defoliating insects are available on the Nebraska Extension CropWatch website or “Managing Soybean Defoliators,” NebGuide G2259

Eastern Redcedar Invasion:
Considered one of the greatest threats to human well-being, Eastern Redcedar trees are invading grasslands at an exponential rate. In as little as 40 years, Eastern Redcedar invasive growth can convert open grassland to closed-canopy woodland.

Due to the drought-tolerant nature of cedars, these tree species have been highly recommended for windbreaks; snow barriers; and landscapes for almost a century. However, when birds and wildlife feed on cedar (blue) seeds and spread their droppings across pastures, these tree species emerge & out-compete almost every plant in the grasslands.

As a result, Nebraska Extension launched a long-term study for sustainable Eastern Redcedar control. UNL cedar control research is summarized at: “cedarliteracy.unl.edu”

Christine Bielski, UNL Cedar Research Advisor, says that effective long-term Eastern Redcedar control policies have not been implemented. This has caused agencies to under-invest when the problem was preventable and over-invest later on to attempt to restore what was lost. This research revealed no examples where late intervention control attempts have worked.

Researchers examined three grassland Nebraska regions, including the Sandhills; and analyzed Easter Redcedar ground cover as well as the land management policies in place. This long-term study found that Eastern Redcedar control measures were not put into place until the trees had rapidly expanded into grassland environments where the cedars were absent or rare. Also, when “one-time prescribed pasture burns” were used to control invading Eastern Redcedar trees; cedar seedlings began re-occurring in the previously pasture burned area 3-4 years after the controlled burn. So, effective long-term “fire” control of Eastern Redcedar requires re-burning pastures every 7-8 years.

Similar recommendations are advised for cutting volunteer cedars out of pastures; where repeated control practices are needed for long-term success. Herbicides labeled for cedar control include: Spike 20P®; Tordon 22K®; Grazon P+D®; Velpar L® & Surmount®
Additional Information and other ET resources can be found at websites listed under “ET Information Sites” below.

**Inches of Crop Water Use (ET) =**

\[ \text{Evaporation} \times K_c \]

### Crop Coefficients (Kc)

<table>
<thead>
<tr>
<th>Stage</th>
<th>Corn</th>
<th>Soybeans</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 leaf</td>
<td>0.10</td>
<td>Cotyledon (VC)</td>
</tr>
<tr>
<td>4 leaf</td>
<td>0.18</td>
<td>1st Node (V1)</td>
</tr>
<tr>
<td>6 leaf</td>
<td>0.35</td>
<td>2nd Node (V2)</td>
</tr>
<tr>
<td>8 leaf</td>
<td>0.51</td>
<td>3rd Node (V3)</td>
</tr>
<tr>
<td>10 leaf</td>
<td>0.69</td>
<td>Beg. Bloom (R1)</td>
</tr>
<tr>
<td>12 leaf</td>
<td>0.88</td>
<td>Full Bloom (R2)</td>
</tr>
<tr>
<td>14 leaf</td>
<td>1.01</td>
<td>Beg. Pod (R3)</td>
</tr>
<tr>
<td>16 leaf</td>
<td>1.10</td>
<td>Full Pod (R4)</td>
</tr>
<tr>
<td>Silk – Beg. Dent</td>
<td>1.10</td>
<td>Beg. Seed (R5)</td>
</tr>
<tr>
<td>½ Milk Line</td>
<td>1.04</td>
<td>Full Seed (R6)</td>
</tr>
<tr>
<td>Full Dent (½ Milk)</td>
<td>0.98</td>
<td>Yellow Leaf (R6.5)</td>
</tr>
<tr>
<td>¾ Milk Line</td>
<td>0.79</td>
<td>Beg. Mat. (R7)</td>
</tr>
<tr>
<td>Black Layer</td>
<td>0.60</td>
<td>Full Mat. (R8)</td>
</tr>
<tr>
<td>Full Maturity</td>
<td>0.10</td>
<td>Mature</td>
</tr>
</tbody>
</table>

### Crop Stage Information

**Corn (R5-1/4 Milk Line to R5.5-1/2 Milk Line (Full Dent) stage):** At R5, ¼ Milk Line, you need 3.75 inches to maturity. Average moisture to 4 feet is 84% (all Silt Loam) at 6 sensor sites across the NRD. If your field matches this, you are done irrigating based on depleting to 40% moisture.

Avg. daily water use from Aug 20 – Aug 26 was 0.10”-0.18”.

**Soybeans (R6-Full Seed to R6.5-Full Seed/Yellow Leaf stage):** At R6, Full Seed, you need 3.5 inches to maturity. Average moisture to 4 feet is 82% (all Silt Loam) at 4 sensor sites across the NRD. If your field matches this, you are done irrigating based on depleting to 40% moisture.

Avg. daily water use from Aug 20 – Aug 26 was 0.11”-0.19”.

Aug 20-Aug 26 (16 of 16 NAWMN sites reporting): Average weekly rainfall was 0.17 (range 0.05 to 0.65). Average weekly ET for corn was 0.95 and for soybeans was 1.02.

### ET Information Sites

- https://nawmn.unl.edu/ETdata/DataMap
- CropWatch: [https://cropwatch.unl.edu/gdd-etdata](https://cropwatch.unl.edu/gdd-etdata)
- CNPPID: [https://www.cnppid.com/weatheret-data/](https://www.cnppid.com/weatheret-data/)
- Water Use Hotline: 1-800-993-2507

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**DESCRIPTION**

**Corn Stage**

- **R5.5 Full Dent - 1/2 Milk Line**: The starch line is 1/2 the way down the kernel. Top 1/2 is hard and bottom 1/2 is softer near the cob.
- **R5.8 3/4 Milk Line**: The starch line is 3/4 the way down the kernel (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.

**Soybean Stage**

- **R6 Full Seed**: At least one pod whose cavities are completely filled with green seeds is present at one of the four uppermost main stem nodes that have fully developed leaves.
- **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.

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

<table>
<thead>
<tr>
<th></th>
<th>August 30, 2018, 8:00 AM</th>
<th>1 Year Ago</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity of Lake McConaughy</td>
<td>80.2%</td>
<td>NA</td>
</tr>
<tr>
<td>Inflows to Lake McConaughy</td>
<td>971 cfs</td>
<td>1220 cfs</td>
</tr>
<tr>
<td>Flows on the North Platte at North Platte</td>
<td>479 cfs</td>
<td>480 cfs</td>
</tr>
<tr>
<td>Flows on the South Platte at North Platte</td>
<td>190 cfs</td>
<td>111 cfs</td>
</tr>
<tr>
<td>Flows on the Platte at Overton</td>
<td>250 cfs</td>
<td>251 cfs</td>
</tr>
</tbody>
</table>

Websites of Interest

Soil Health:  

Climate  
agclimatenebraska.weebly.com

NRCS Nebraska  
www.ne.nrcs.usda.gov

Central Irrigation District  
www.cnppid.com/

TBNRD Home Page  
www.tribasinrd.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.

<table>
<thead>
<tr>
<th>Location</th>
<th>Aug 16 – Aug 29</th>
<th>May 1 – Aug 29</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arapahoe 9.8 NNE</td>
<td>1.22</td>
<td>14.06</td>
</tr>
<tr>
<td>Bertrand 6.1 mi. SE</td>
<td>1.01</td>
<td>16.85</td>
</tr>
<tr>
<td>Funk 4.1 mi. NNE</td>
<td>1.15</td>
<td>13.58</td>
</tr>
<tr>
<td>Minden 0.855 mi. W</td>
<td>0.96</td>
<td>13.90</td>
</tr>
<tr>
<td>Minden 8.8 mi. ESE</td>
<td>1.67</td>
<td>14.90</td>
</tr>
</tbody>
</table>

Average Rain for May–August in Holdrege = 14.21 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.**