

## PROGRAM INFORMATION

**CSP:** THE CSP CONTINUOUS SIGNUP IS UNDERWAY.

APPLICATION CUTOFF FOR RANKING IS **SEPTEMBER 30<sup>th</sup>**. CONTACT YOUR LOCAL NRCS OFFICE.

**EQIP, AWEP, WHIP, WRP, CREP, & CONT. CRP:**

APPLICATIONS FOR FUNDING ASSISTANCE AND/OR ANNUAL PAYMENTS CAN BE TAKEN ANYTIME AT YOUR LOCAL USDA SERVICE CENTER. -- AWEP APPLICATIONS ARE CURRENTLY BEING APPROVED AND CONTRACTS WRITTEN.

**NSWCP:** APPLICATIONS FOR COST-SHARE ASSISTANCE CAN BE TAKEN ANYTIME AT YOUR LOCAL NRCS OFFICE.

## CALENDAR OF EVENTS

**SEPT 3:** CROP CLINIC SERIES 4 AT UNL SOUTH CENTRAL LAB NEAR CLAY CENTER, NE, NOON, FOR MORE INFO, GOTO [HTTP://SCAL.UNL.EDU](http://SCAL.UNL.EDU) OR CALL 402-762-3536

**SEPT 7:** LABOR DAY - GOV'T OFFICES CLOSED

**SEPT 8:** CNPPID BOARD OF DIRECTORS MEETING, 9 AM

**SEPT 8:** TBNRD BOARD MEETING, 1:30 PM

**SEPT 15-17:** HUSKER HARVEST DAYS

FOR MORE INFO, GOTO [WWW.HUSKERHARVESTDAYS.COM](http://WWW.HUSKERHARVESTDAYS.COM)

### Predicting Last Irrigation!!!

It is recommended that soil moisture levels drop to 40% (60% depletion) to a 4 foot depth at crop maturity. This saves water, fuel, and allows off season moisture to replenish the soil profile. To do this, predicting the last irrigation is important. An example is provided on page 2.

Information needed to predict last irrigation is: **1.** Available Water Capacity (AWC) of soil type, **2.** remaining amount of plant available water in the root zone to a four foot depth, **3.** current crop stage, and **4.** normal water use requirements from current crop stage to maturity. This prediction process assumes no more rainfall to crop maturity. Should rainfall occur, then the process needs to be reevaluated.

The following is a chart for normal water use requirements from various crop stages to maturity.

	Growth Stage	Approx. Days to Maturity	Water Use To Maturity
<b>Corn</b>	Dough (R4)	34	7.5"
	Beg. Dent (R4.7)	24	5.0"
	¼ Milk Line (R5)	19	3.75"
	½ Milk Line (Full Dent)	13	2.25"
	¾ Milk Line	7	1.0"
	Maturity (R6)	0	0.0"
<b>Soy</b>	Full Pod (R4)	37	9.0"
	Beg. Seed (R5)	29	6.5"
<b>Beans</b>	Full Seed (R6)	18	3.5"
	Leaves Beg. To Yellow (R6.5)	10	1.9"
	Beg. Maturity (R7)	0	0.0"

You can also get a copy of NebGuide G1871 "Predicting the Last Irrigation of the Season" online at <http://www.ianrpubs.unl.edu/epublic/live/g1871/build/g1871.pdf> or you can contact Curtis Scheele at 308-995-6121, Ext. 3 or your local County Extension office for assistance.

## ACROSS THE TRI-BASIN NRD

### Are You Done Irrigating for 2009?

Are you done irrigating for 2009? You may be. If corn is at Beginning Dent, you need 5.0 inches of moisture to finish the year (see chart at left). If soybeans are at Full Seed, you need 3.5 inches to finish the year. Some of you caught a good rain the morning of August 26<sup>th</sup>. This could have finished the year.

Before Wednesday's rains, moisture levels at a few sites averaged 88% to a three foot depth. Lets assume the fourth foot is 88% as well. An average of 88% moisture to 4 feet means we have 48% moisture available to the plants before maturity (88%-40% year end goal). 48% multiplied by 9.0 inches (silt loam soil) of moisture means there is 4.32 inches left in the soil to be used by the plants. Corn then needs an additional 0.68 inches and soybeans need 0.0 inches based off crop stages mentioned above. Some of you received that 0.68 inches on the 26<sup>th</sup>, therefore you should be done.

One needs to closely monitor their own fields. Continue to do so during the remainder of the year. There is no need to put on that last irrigation early. Wait and see what happens. Rains can provide free water for you. If you get to the end with no rains and you need to add some, then do so at that time. Let mother nature replenish the soil profile for you during the off-season.

### Stage of Growth:

**Corn (R4-Dough to R4.7-Beginning Dent stage):** At R4, the kernels are about 70% moisture and have accumulated close to half of their mature weight.

*Average daily water use from Aug. 17-Aug. 23 was 0.13"-0.21".*

**Soybeans (R4-Full Pod to R7-Beginning Maturity stage):**

Demand for water and nutrients is large throughout the rapid seed filling period. R7 is when one normal pod on the main stem has reached its mature pod color, normally brown or tan, depending on variety. At R7, soybeans need no more water.

*Average daily water use from Aug. 17-Aug. 23 was 0.14"-0.17".*

### Irrigation:

Irrigation continues in places. Recent rains should have finished some crops off for the year.

The last day of CNPPID water for 2009 is August 31<sup>st</sup>.

*From Aug. 17-Aug. 23 (13 NAWMDN sites), the average weekly rainfall was 0.14" and average weekly ET for corn was 1.22" and beans was 1.11".*

Lake McConaughy is at 49.9% capacity versus 33.3% a year ago. Inflows to Lake McConaughy are at 941 cfs versus 911 cfs a year ago. Flows on the South Platte River @ North Platte are at 285 cfs versus 139 cfs a year ago.

### Rainfall:

Rainfall amounts come from NeRAIN which can be found at website <http://dnrdata.dnr.ne.gov/NeRAIN/index.asp?&>.

<u>Location:</u>	<u>Aug 13 – Aug 26</u>	<u>May 1 – Aug 26</u>
<b>Arapahoe 6.9 mi. NW:</b>	<b>1.01"</b>	<b>14.71"</b>
<b>Bertrand 6.1 mi. SE:</b>	<b>1.79"</b>	<b>10.99"</b>
<b>Funk 12.5 mi. N:</b>	<b>2.22"</b>	<b>16.64"</b>
<b>Wilcox 0.3 mi. SW:</b>	<b>3.09"</b>	<b>15.21"</b>
<b>Minden 4.4 mi. NW:</b>	<b>2.89"</b>	<b>12.66"</b>

## NAWMDN CROP ET INFORMATION

Additional Atmometer sites and Weather Station Data can be found at websites listed under "ET Information Sites" below.

7 Days = Aug 10-Aug 16    7 days = Aug 17-Aug 23

Inches of Crop Water Use (ET) = Evaporation x Kc

Atmometer Station: Arapahoe 7 Northwest (#5)  
**Evaporation:**    Week #1 = 1.50 inches    Week #2 = 1.10 inches

Atmometer Station: Elwood 1 East (#6)  
**Evaporation:**    Week #1 = 1.30 inches    Week #2 = 0.95 inches

Atmometer Station: Bertrand 4 Southwest (#7)  
**Evaporation:**    Week #1 = 1.45 inches    Week #2 = 1.10 inches

Atmometer Station: Bertrand 6 Northeast (#12)  
**Evaporation:**    Week #1 = 1.40 inches    Week #2 = 1.10 inches

Atmometer Station: Holdrege 5 Southeast (#9)  
**Evaporation:**    Week #1 = 1.35 inches    Week #2 = 1.20 inches

Atmometer Station: Funk 6 Northeast (#8)  
**Evaporation:**    Week #1 = 1.40 inches    Week #2 = 1.30 inches

Atmometer Station: Minden 11 Southeast (#2)  
**Evaporation:**    Week #1 = 1.30 inches    Week #2 = 0.80 inches

Atmometer Station: Minden 5 North (#3)  
**Evaporation:**    Week #1 = 1.30 inches    Week #2 = 1.05 inches

		<u>Crop Coefficients (Kc)</u>	
		<u>Corn</u>	<u>Soybeans</u>
<u>Stage</u>	<span style="background-color: green;">Kc</span>	<u>Stage</u>	<span style="background-color: green;">Kc</span>
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, Bl., Dough	1.10	Beg. Seed (R5)	1.10
Beg. Dent	1.10	Full Seed (R6)	1.10
Full Dent	0.98	Beg. Mat. (R7)	0.90
Black Layer	0.60	Full Mat. (R8)	0.20
Full Maturity	0.10	Mature	0.10

### ET Information Sites

NAWMDN Sites:  
[www.cnppid.com/ET\\_Map\\_location\\_page.htm](http://www.cnppid.com/ET_Map_location_page.htm)  
[elkhorn.unl.edu/ETGage/](http://elkhorn.unl.edu/ETGage/)  
 Water Use Hotline – dial 1-800-993-2507  
 Central Irrigation District: [www.cnppid.com](http://www.cnppid.com)  
 UNL Cropwatch – [cropwatch.unl.edu/weather/gdd-et.html](http://cropwatch.unl.edu/weather/gdd-et.html)

### Websites of Interest

NRCS Nebraska [www.ne.nrcs.usda.gov](http://www.ne.nrcs.usda.gov)  
 Central Irrigation District [www.cnppid.com](http://www.cnppid.com)  
 TBNRD Home Page [tribasinncrd.org](http://tribasinncrd.org)  
 Farm Service Agency [www.fsa.usda.gov](http://www.fsa.usda.gov)  
 UNL Cropwatch [cropwatch.unl.edu](http://cropwatch.unl.edu)  
 UNL Extension [www.extension.unl.edu/home](http://www.extension.unl.edu/home)  
 UNL Water [extension-water.unl.edu](http://extension-water.unl.edu)  
 K-State SDI Website [www.oznet.ksu.edu/sdi](http://www.oznet.ksu.edu/sdi)  
 No-till On The Plains [www.notill.org](http://www.notill.org)  
 No-till Notes [www.npnrd.org/notill.htm](http://www.npnrd.org/notill.htm)

### Predicting Last Irrigation Example

Crop: Corn      Growth Stage: Beg. Dent    Moisture: 75%  
 Water required to maturity (see chart on pg. 1): 5.0 in.  
 Soil Type: Holdrege Silt Loam = an AWC of 2.25 in. per ft.  
 (Soil information available at your local NRCS office)

1. AWC x root zone (4 ft. depth) = **9.0 in. Total AWC**
2. Maximum water depletion of 60% x 9.0 = **5.4 in. of maximum water depletion in 4 ft. root zone**
3. Current soil water depletion (measured) = **2.25 in.**  
 (25% avg. depletion x 2.25 in./ft. x 4 ft.)
4. Remaining plant available water = **3.15 in.**  
 (5.4 maximum depletion minus 2.25 already depleted)
5. Irrigation requirement = **1.85 inches of irrigation water needed for plant to reach maturity.**  
 (5.0 in. of water to reach maturity minus 3.15 in. of water available)

Note: This all assumes no rainfall. Should rainfall occur, the process needs to be repeated. It's also recommended to periodically check soil moisture & crop stages and repeat this process through crop maturity.

*On the road to success, you can be sure of one thing... there is never a crowd on the extra mile.*

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\*\*\* 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](mailto:curtis.scheele@ne.usda.gov). \*\*\*

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 308-995-6121, Ext. 3

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 309 Smith Street  
 PO Box 41  
 Elwood, NE 68937-0041  
 308-785-3307, Ext. 3

**USDA-NRCS**  
 1005 South Brown Street  
 Minden, NE 68959-2601  
 308-832-1895, Ext. 3

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