

Tri-Basin Irrigator

Volume 17, Issue 1

May 25, 2017

PROGRAM INFORMATION

EQUIP, CSP, AND ACEP:

EQUIP – FUNDS FOR 2017 CONTRACTS HAVE BEEN PRE-APPROVED OR OBLIGATED. SHOULD SLIPPAGE FUNDS BECOME AVAILABLE, WE CAN POSSIBLY FUND ADDITIONAL CONTRACTS.

CSP – WE ARE CURRENTLY VISITING WITH PRODUCERS AND RANKING THE NEW 2017 APPLICATIONS.

NSWCP: NSWCP FUNDS ARE ONLY AVAILABLE FOR FLOW METERS AND SOIL MOISTURE SENSORS AT THIS TIME. THESE APPLICATIONS WILL CONTINUE TO BE FUNDED MONTHLY. APPLICATIONS MUST BE SIGNED BY THE OWNER. INSTALLATION WORK CANNOT BE STARTED UNTIL APPROVED. -- FOR ALL OTHER CONSERVATION PRACTICES, THE TRI-BASIN NRD HAS SUSPENDED APPROVAL OF NSWCP APPLICATIONS FOR THE FORESEEABLE FUTURE.

ENERGY EFFICIENCY GRANT: SIGN-UP DEADLINE FOR 2017 FUNDS HAS PASSED FOR IMPROVEMENTS TO IRRIGATION SYSTEMS SUCH AS CONVERTING GRAVITY SYSTEMS TO PIVOTS OR SDI. APPROVALS WILL TAKE PLACE THIS SUMMER. IF YOU HAVE A COMPLETED APPLICATION ON FILE AT YOUR RURAL DEVELOPMENT OFFICE, YOU CAN START YOUR PROJECT IF YOU WANT TO. IF NOT APPROVED BY SEPTEMBER 30, 2017, THEN YOU WILL NOT RECEIVE ANY FUNDING ASSISTANCE. **NEXT SIGNUP DEADLINE WILL BE OCTOBER 31, 2017.** 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

MAY 29: MEMORIAL DAY – GOV'T OFFICES CLOSED

JUNE 5: CNPPID BOARD OF DIRECTORS MEETING 9 AM

JUNE 20: TBNRD BOARD MEETING 1:30 PM

Highly Erodible Land (HEL) Compliance!

If you are farming HEL fields, you are **REQUIRED** to control ephemeral gully erosion in order to remain in compliance with USDA farm program benefits. Tillage to smooth the ditches is not a control practice. Tillage hides the problem and allows the problem to continue. Cover crops, terraces, waterways, etc. are ways to help control ephemeral gully erosion.

Starting in 2017, Nebraska NRCS will be addressing this concern. Efforts will be made to assist producers in controlling ephemeral gullies and to remain in compliance with the Food Security Act of 1985.

For more info, visit this link for attachments and a video: <https://www.nrcs.usda.gov/wps/portal/nrcs/detail/ne/programs/farmbill/cc/?cid=NRCSEPRD1322784>.

You can also contact your local NRCS office. Attached is a gully information sheet as well.



Non-compliance Compliance

CURTIS'S COLUMN



Tri-Basin Irrigator: Up and Running for 2017!!!:

The Tri-Basin Irrigator is back for another season. Welcome to those of you getting this newsletter for the first time! My name is Curtis Scheele. I am the Water Management Specialist with the NRCS covering Gosper, Phelps, and Kearney counties. My office is located in Holdrege. See page 4 for my contact information.

The goal of this newsletter is to provide you with irrigation and other related information across the Tri-Basin NRD. Hopefully, you will benefit from the information provided. It will be sent bi-weekly during the crop season.

Archived copies from 2015 to present are available on the Tri-Basin NRD's website at

http://www.tribasinnrd.org/tb_irrigator.html.



Tri-Basin Irrigator via EMAIL
saves paper and lets you be one click away
from the various links.

If you would be willing to receive this newsletter via email, please provide me with your email address. You can call me at 308-995-6121, Ext. 3, call your local NRCS office (see contact info. on page 4), or you can email me at curtis.scheele@ne.usda.gov.

REMINDER!!!

Annually Renew SAM Registration

Website link located on page 4.

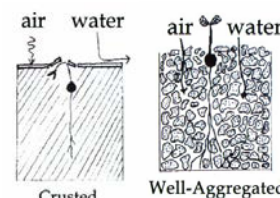
Soil Health Series: Introduction

This year I will have a short series on soil health in each newsletter. A website you can link to will be located on page 4.

Soil Crusts

Soil crusts are created due to tillage and a lack of cover/residue. Tillage destroys the structure of the soil. Healthy soil aggregates are broken into individual soil particles. These particles mesh together from rain or irrigation, thus creating crusts. Crusts prevent the infiltration of water into the soil causing runoff which can create erosion. Also, without infiltration, we are reducing the amount of free moisture our crops can use in the field. Result is more money spent on irrigation and the pumping of more water for the crops. Not only do we irrigate for moisture that was lost from a lack of infiltration, but we also irrigate to water up the crops through the crust. Why spend money tilling, thus creating crusts, only to spend more money trying to get rid of crusts so the crops will emerge?

Attached is an information sheet.



2017 Irrigation Season:

The 2017 irrigation season begins on a high note; water in the soil profile is at field capacity to saturated or ponded across the three counties. Central has a full supply of water and the scheduled irrigation season is June 5th through August 28th.

We have started reporting weather data for the season. Weather, ET, growing degree days and crop stage for corn and soybeans are available Mon.-Fri. on our website and area DTN machines (Central Info-mail page). We also have a producer e-mail group that receives ET, growing degree days and crop growth stage data for corn and soybeans daily, Mon.-Fri. Please call (308) 995-3550 or leave a voice mail with your e-mail address to be added to this group. The service is free and available to everyone; e-mails will arrive around 8 am each morning. Local calculations are from data collected at three UNL weather stations; 2 mi. north and 5 mi. west of Minden, 4 miles north of Holdrege and 2 miles east of Smithfield. Crop data are calculated using May 10th and May 20th as the average emergence dates for corn and beans respectively. If your fields did not emerge on that day, plants emerging later may be near enough to the crop stage of the early planted fields to use the same ET values given the cool and cloudy conditions. If you see the crop stage in your field or fields are significantly different than that, an adjustment to crop water use will need to be made, particularly through the reproductive and grain fill stages. You may call the number above to request ET data for a late-planted crop; you will need to know your emergence date.

Please remember the windblown no-till and strip-till fields will be losing significantly more water than usual to evaporation prior to canopy if the soil cover is gone.

TRI-BASIN NRD NEWS



Chemigation Permit Renewals Due June 1st:

Chemigation, the practice of applying agricultural products such as fertilizers, herbicides, and insecticides through a pivot irrigation system, can be a highly effective means of chemical or fertilizer application.

By state law, anyone who wants to apply fertilizer or ag chemicals through their irrigation system needs to apply for a chemigation permit for the 2017 season. **Chemigation renewal forms have been sent to producers and are due, along with payment, in the Tri-Basin NRD office by June 1, 2017.** Renewal permits are \$15 each.

Landowners and operators should contact Tri-Basin NRD toll-free at 1-877-995-6688 regarding new chemigation permits. New permits are \$50 each. All newly permitted chemigation systems must be inspected before use. A person who is certified as a chemigation applicator must supervise injection of fertilizer and ag chemicals in irrigation water. If a chemigation system crosses an open waterway, such as an irrigation canal, an additional form must be completed before the permit can be approved.

NRD staff do routine inspections on chemigation systems from June until August. Routine inspections are required every three years. If your system is due for an inspection, you will receive a postcard this summer. Routine inspections must be completed for permits to be eligible for renewal the following year.

A more detailed explanation of the chemigation permitting process is available on our website at www.tribasinnr.org, under the Programs & Services tab.

Water Use Hotline Available

The Nebraska Extension – Phelps-Gosper “Water Use Hotline” will again be available for irrigators from June 5 through September 1, 2017 as a “free” service. Through the High Plains Regional Climate Center, Tri-Basin NRD and CNPPID; Extension will provide updated crop growth and water use calculations for corn, soybeans, wheat, grain sorghum and alfalfa from automated data collection sites.

Producers can assess this information by calling either: locally (308-995-2255) OR toll-free (1-800-993-2507).

Information can also be accessed through the web:

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

New this year will be location renaming of Nebraska automated weather data network stations (reflecting mileage and directions) from the nearest village, city, town or post office. The Nebraska State Climate Office renamed Nebraska locations to align with other cooperating states. As a result, our five local automated weather data stations now have new names; although the actual automated data locations remain the same as previous years.

2017 “new reference names” for our local automated stations will be as follows: Holdrege→“Ragan 5W”; Holdrege 4N→“Holdrege 5N”; Lexington→“Lexington 4S”; Minden→“Axtell”; and Smithfield→“Smithfield 2E.”

The 2017 Water Use Hotline corn growth stage water use values are based on a May 10th emergence date; while soybean growth staging water use is based on a May 20th emergence date. Updated data includes: crop water use averages for 3-day; 1 week crop ET values; & accumulated Growing Degree Days (GDD's).

Crop Growth Stages Water Use

Crop water use increases as plant growth stages advance. Therefore, our Nebraska Extension CropWatch website provides free “Crop Water Use by Plant Growth Stage” charts for alfalfa, corn, sorghum, soybeans and wheat. These illustrated guides provide guidance for irrigators to determine proper plant growth stages.

Helpful Hint: For season-long corn growth staging, it may be helpful to paint or mark several V6 corn leaves now on several plants within stage monitoring fields. For example, early lower corn leaves will likely fade as the growing season progresses; so making accurate leaf counts for growth staging may become challenging later. Irrigation needs can then be calculated based on: rainfall; soil moisture profile conditions; weather; and ET rates for accurate crop growth staging.

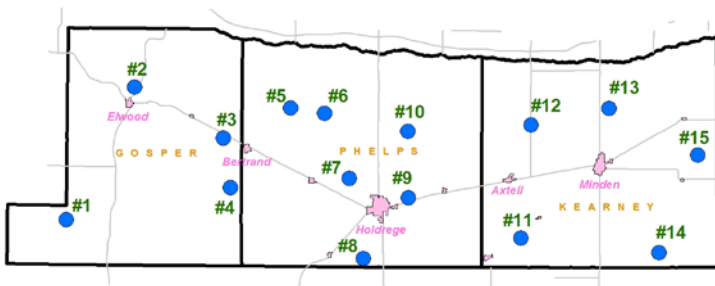
EvapoTranspiration (ET) combines *evaporation* (water loss from the soil surface) and *transpiration* (water used by plants) for defining “crop water use” needed for optimum yield. Field irrigation efficiency may be improved with an atmometer (ETgage®) installation near the field just above the crop canopy. In-field ET gauges increase accuracy of crop water use measurements; resulting in application rates aligning more with “just enough” irrigation water addition to meet plant needs. If the crop is under irrigated, yields decline and lower revenue. However, too much irrigation water can also lower yields and net income. Over irrigation increases net energy and irrigation application costs. Saturated field soil conditions may also leach chemicals, nitrates, and available soil nutrients (needed by crops) below the root zones into groundwater tables.

NAWMN CROP ET INFORMATION

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

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

	Not Available		May 15 – May 21	
Site	Evaporation	Rain	Evaporation	Rain
1	NA	NA	0.90	3.38
2	NA	NA	1.20	2.63
3	NA	NA	0.60	3.15
4	NA	NA	0.70	2.73
5	NA	NA	NA	NA
6	NA	NA	NA	NA
7	NA	NA	1.10	2.53
8	NA	NA	0.70	4.19
9	NA	NA	NA	NA
10	NA	NA	NA	NA
11	NA	NA	0.80	4.70
12	NA	NA	1.00	4.20
13	NA	NA	1.00	4.72
14	NA	NA	0.90	5.60
15	NA	NA	0.90	4.90



2017 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 (Planted to V3-3Leaf stage): Hail, wind, or frost that damages the exposed leaves at the 3-leaf stage have little or no effect on yield due to the below ground growing point.

Avg. daily water use from May 15 – May 21 was 0.00"-0.02".

Soybeans (Not Planted to VC-Cotyledon stage): Loss of one cotyledon has little affect on yield while loss of both can reduce yields by 8-9%.

Avg. daily water use from April 25 – May 1 was 0.00"-0.02".

May 15-May 21 (11 of 15 NAWMN sites reporting): Average weekly rainfall was 3.88 (range 2.53 to 5.60). Average weekly ET for corn was 0.07 and for soybeans was 0.05.

ET INFORMATION SITES

NAWMN Sites:

<http://www.cnppid.com/news-info/weather-et-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/weather-et-data/>

Water Use Hotline: 1-800-993-2507

Corn Stage		DESCRIPTION
V2	2 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. TIP: Mark the 6th leaf or a higher leaf by cutting a notch in it or some other way so as to know that leaf number. Reason is the lower leaves will be lost as the plant develops. Flag or somehow mark the plant in the field as a reference plant when determining later leaf (vegetative) stages.
V4	4 Leaves	
V6	6 Leaves	
Soybean Stage		DESCRIPTION
VC	Cotyledon	Shortly after emergence. Cotyledons and unifoliate leaves are unfolded. (1 node)
V1	First Node	One trifoliate leaf has 3 leaflets. V1 is the first trifoliate leaf with unrolled or unfolded leaflets. Leaflet edges are no longer touching. (2 nodes = 1 unifoliate + 1 trifoliate)

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>.

	May 25, 2017, 8:00 AM	1 Year Ago
Capacity of Lake McConaughy	85.2%	NA
Inflows to Lake McConaughy	1894 cfs	8247 cfs
Flows on the North Platte at North Platte	533 cfs	2399 cfs
Flows on the South Platte at North Platte	2275 cfs	4184 cfs
Flows on the Platte at Overton	2472 cfs	7906 cfs

*Loving relationships are a family's best protection
against the challenges of the world.*

- Bernie Wiebe

WEBSITES OF INTEREST

Soil Health:

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

Climate agclimatenbraska.weebly.com
 SAM Registration www.sam.gov
 NRCS Nebraska www.ne.nrcs.usda.gov
 Central Irrigation District www.cnppid.com
 TBNRD Home Page www.tribasinnrd.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:	May 11 – May 24	May 1 – May 24
Arapahoe 6.9 NW:	1.98	3.08
Bertrand 6.1 mi. SE:	2.44	5.31
Funk 4.1 mi. NNE:	4.25	5.60
Minden 0.855 mi. W:	5.29	8.95
Minden 8.8 mi. ESE:	5.45	6.74

Average Rain for May in Holdrege = 4.06 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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Soil Quality Indicators

Soil Crusts

Structural soil crusts are relatively thin, dense, somewhat continuous layers of non-aggregated soil particles on the surface of tilled and exposed soils. Structural crusts develop when a sealed-over soil surface dries out after rainfall or irrigation. Water droplets striking soil aggregates and water flowing across soil breaks aggregates into individual soil particles. Fine soil particles wash, settle into and block surface pores causing the soil surface to seal over and preventing water from soaking into the soil. As the muddy soil surface dries out, it crusts over.

Structural crusts range from a few tenths to as thick as two inches. A surface crust is much more compact, hard and brittle when dry than the soil immediately beneath it, which may be loose and friable. Crusts can be described by their strength, or air-dry rupture resistance.

Soil crusting is also associated with biological and chemical factors. A biological crust is a living community of lichen, cyanobacteria, algae, and moss growing on the soil surface that bind the soil together. A precipitated, chemical crust can develop on soils with high salt content.

Factors Affecting

Inherent - Soil crusting is related to soil texture, organic matter, and sodium content. Surface crusts are more common on fine-textured soils, such as silts, loams and clays. In combination with the splashing effect of raindrops, increased runoff and erosion of fine-textured soil increases the likelihood that a crust will develop. Crusts are usually thin and weak if present on coarse-textured, sandy soils.

Low organic matter results in poor soil structure, reduced pore space, and weak, unstable aggregates that fall apart when raindrops hit them. Rainfall and runoff disperses the soil into individual particles that clog soil pores and seal its surface with a soil crust.

Soils with high sodium content are more likely to develop surface crusts since these soils are more readily dispersed with rainfall and irrigation.



Left: Note the surface crust on this soil. The field was in tall fescue sod for 11 years. It was cleared and plowed using conventional tillage methods. Photo courtesy Bobby Brock, USDA NRCS (retired). Right: Collected from a no-till field in Georgia's Southern Piedmont, good structure and aggregation are evident in the soil on the right. The same soil formed a structural crust under conventional tillage. Note the sunlight reflectance of the crusted soil. Photo courtesy James E. Dean, USDA NRCS (retired).

Dynamic - Management activities that deplete soil organic matter and leave soil bare, smooth and exposed to the direct impact of water droplets increase soil dispersion, surface sealing, runoff, erosion, and crusting. Excessive tillage tends to break up soil clods into smaller sizes more susceptible to breakdown, bury most plant residue, and accelerate decomposition of organic matter. Harvest methods that remove most or all of aboveground biomass also prevent or reduce organic matter buildup and protection of the soil surface. Until the crop and its protective canopy is established, residue removal also exposes soil to direct sunlight, which increases soil temperature and accelerates drying of the soil surface into a hard crust.

Relationship to Soil Function

A surface crust indicates poor infiltration, a problematical seedbed, and reduced air exchange between the soil and atmosphere. It can also indicate that a soil has a high sodium content that increases soil dispersion when it is wetted by rainfall or irrigation.

Problems with Poor Function

Because they are hard and relatively difficult to break, crusts restrict seedling emergence, especially in non-grass

crops such as soybeans and alfalfa. Crusts can also reduce oxygen diffusion into the soil profile by as much as 50% if the soil crust is wet. Crust development soon after a crop is planted can result in such poor emergence that the crop might have to be replanted.

Surface sealing and crusts greatly reduce infiltration, and increase runoff and erosion. Increased runoff results in less water available in soil for plant growth.

The sunlight (and energy) reflectance of a surface crust is higher than that of a non-crusting soil, so soil temperature may be lower and surface evaporation reduced where a crust exists (see photo on reverse). This could negatively affect germination and development of healthy seedlings in cooler climates.

The relatively smooth surface of a crusted soil initially increases wind erosion of sandy soils. Loose sand particles blow across and abrade the smooth surface of the crust. Roughening of the surface crust eventually reduces wind erosion. For soils with a small amount of sand, hard crusts protect the soil surface from wind erosion.

Surface crusts can have other limited benefits. Crusts decrease water loss because less of their surface area is exposed to the air compared to a tilled, fluffy soil. In addition, a crust forms a barrier to evaporation of soil moisture. Reduced evaporation of soil moisture means more water remains in the soil for plant use.

Practices that lead to soil crusting include:

- Harvesting, burning, burying, or otherwise removing plant residues and mulches so as to leave the soil surface bare for an extended period of time, and
- Soil disturbing activities that destroy organic matter, soil structure and aggregation, and result in very smooth seedbeds.

Avoiding Soil Crusting

Practices reducing the development of soil crusts or minimizing their negative impacts include those that protect or increase soil structure and organic matter and provide protective vegetative or residue cover on the soil surface. No-till or reduced tillage of cropland is the best way to reduce or eliminate crust formation. If tillage is necessary, it should only be done to the minimum level required for good seed germination and emergence. Large seeded crops do not require the same degree of clod size reduction or as smooth of a seedbed as do small seeded crops. Residue intercepts the force of falling raindrops and is a source of organic matter. Organic matter stabilizes soil aggregates making them more resistant to the physical impact of raindrops. Improved aggregation results in lower

bulk density and increased pore space, and improves infiltration and water movement through soil.

Improved infiltration and water movement through soil decreases surface ponding and runoff, and helps protect soil from erosion. Good soil structure and aggregate stability are vital to supporting healthy, vigorous plants. Healthy plants provide and conservation tillage methods manage surface and subsurface plant residues needed to increase organic matter while maintaining and improving aggregate stability and soil structure.

To reduce the incidence of surface crusting of soils high in sodium, irrigation water management prevents sodium accumulation at the surface, and gypsum (calcium sulfate) can be applied to promote flocculation and inhibit dispersion of soil particles.

It may be necessary to break a soil crust with a shallow, light tillage operation such as with a rotary hoe or row cultivator, preferably when the soil is still moist. Light tillage can increase seedling emergence and help control weeds. Irrigation water can also be used to help with seedling emergence.

Conservation practices that minimize the development of a soil crust include:

- Conservation Crop Rotation
- Cover Crop
- Residue and Tillage Management
- Salinity and Sodic Soil Management

Measuring Soil Crusting

Crust air-dry rupture resistance can be measured by taking a dry piece of the crust about ½ inch on edge and applying a force on the edge until the crust breaks. Generally, more force is required for crusts that are thick and have high clay content. A penetrometer to measure the penetration resistance of the crust can be used. Crust thickness can also be measured.

Reference: Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. Chapter 3, Part 8. [Online] <http://soils.usda.gov/technical/manual/contents/chapter3d.html>

Specialized equipment, shortcuts, tips:

A penetrometer may be needed to measure penetration resistance of a soil crust.

Time needed: 30 minutes

Fix it, Don't Disc it

Stop Ephemeral Gully Erosion with Conservation Systems

Got a Gully?

Runoff water flowing from uneven landscapes tends to concentrate in natural, depressional channels. These channels, called ephemeral gullies, can be reshaped and farmed across, but continued, concentrated flow takes away the soil. Ephemeral gullies sometimes are described as silent erosion because they can be easily smoothed over, hidden and planted to crops. Discing an ephemeral gully leaves nutrient-rich topsoil vulnerable to erosion. Fixing ephemeral gullies through conservation practices protects productivity and water quality and allows farmers with highly erodible land to continue receiving USDA farm program benefits.



Ephemeral Gully

Fix it, Don't Disc It.

Below are examples of just a few of the natural resources conservation practices and management options available to help farmers voluntarily fix ephemeral gullies in their fields. Additional practices to consider include: conservation crop rotation, contour buffer strips, contour farming, stripcropping, critical area planting, and water and sediment control basin. Contact your local NRCS office for help deciding which options are best for you and your farm, and to learn about financial assistance options.



No Till



Cover Crops



Grassed Waterway



Terraces

Conservation Compliance

The 1985 Farm Bill required Conservation Compliance for all USDA program participants if they farm highly erodible land (HEL). **ANY** tillage not accounted for in your conservation plan may put you out of compliance.

Should you be concerned?

If you have highly erodible land, and you have small gullies forming in your fields you should check with the Natural Resources Conservation Service (NRCS). Discing or smoothing the gullies will not fix the problem. And you risk losing your USDA farm program benefits.

When in doubt, visit your local NRCS office before performing any tillage that is not part of your conservation plan on HEL land.



More Information

For more information visit your local USDA Service Center or the NRCS Nebraska website at: www.ne.nrcs.usda.gov.

Find your local NRCS office

<http://offices.usda.gov>

Helping People Help the Land