



### Do you have a problem with:

- Low yields
- Time & expense to repair gullies
- Small rills and channels in your fields
- Soil deposited at the base of slopes or along fence lines
- Sediment in streams, lakes, and reservoirs

### Soil Erosion May be the Problem!

#### What is soil erosion?

Soil erosion by wind or water is the physical wearing away of the soil surface. Soil material and nutrients are removed in the process.

#### Why be concerned?

- Erosion reduces crop yields
- Erosion removes topsoil, reduces soil organic matter, and destroys soil structure
- Erosion decreases rooting depth
- Erosion decreases the amount of water, air, and nutrients available to plants
- Nutrients and sediment removed by water erosion cause water quality problems and fish kills
- Blowing dust from wind erosion can affect human health and create public safety hazards
- Erosion increases production costs



*Erosion from cropland*



*Signs of Erosion – Sediment entering river*



*Erosion removes our richest soil.*

#### How much does it cost?

- Technical assistance to assess and plan erosion control systems from NRCS is free.
- No till/mulch till may require special tillage equipment or planters if this equipment is not already available.
- Vegetative barriers may cost \$50-\$100 per mile of barrier.
- Cover crops may cost between \$10 and \$40 per acre depending on the type of seed used.
- Grassed waterways and other practices requiring earthwork may be expensive (but some USDA Programs may help offset some of these costs).

# Controlling Soil Erosion



*Signs of Erosion – Small rills and channels on the soil surface are a sign of water erosion.*



*Dust clouds & "dirt devils" such as the one pictured here are signs of wind erosion.*

## How to Reduce Erosion

The key to reducing erosion is to keep the soil covered as much as possible (either through crop residues or permanent vegetation). Some common soil-saving practices include the following.



*Crop rotations using high residue crops (corn, hay, and small grain) produce large amounts of residue that help control erosion.*



*Grassed waterways stabilize concentrated flow areas and provide a stable outlet for water.*



*No till planting reduces erosion by keeping more residue on the soil and less soil disturbance.*



*Grasses, small grains, and legume cover crops protect soil from erosion during non-crop periods .*

# Controlling Soil Erosion

## How to Install Erosion Control Practices

Many erosion control practices such as no till or mulch till, cover crops, etc. can be implemented with minimal expense and design assistance. However, practices such as grassed waterways, diversions, etc., may require significant engineering and construction costs. NRCS conservationists can assist farmers to decide which practice or combination of practices would work best on your farm and how to install the practices.



*Narrow vegetative hedges planted across the slope reduce erosion and take very little land out of production.*

## Other Benefits of Erosion Control

- Higher crop yields
- Cleaner air and water
- More wildlife
- Reduced labor with less tillage
- Healthier and more productive soils
- Less drought stress



*Conservation provides healthy and productive soils.*

## How to Maintain the Erosion Control Practices

- Evaluate the effectiveness of the practices and adapt if needed
  - ⇒ May need to modify the rotation
  - ⇒ May need to modify the tillage system
  - ⇒ May need to modify the practices being applied (add or delete a practice)
- Repair vegetative practices if damaged by storms or tillage



*An NRCS conservationist measures slope to determine erosion potential. Technical assistance is available from NRCS to help plan low cost erosion control systems with farmers.*

## Technical Help Is Available

Your local Natural Resources Conservation Service (NRCS) office has experienced conservationists that can assist you with planning and designing a system to minimize Soil Erosion on your farm. They can also help you develop a Conservation Plan to solve other concerns you have identified on your farm.

There is no charge for our assistance. Simply call your local office to set up an appointment and we will come to your farm. Requests for our assistance are numerous, but we will assist you as quickly as we can.

You may also be eligible to receive financial assistance through a state or federal program. Your NRCS office will explain any programs that are available so you can make the best decision for your operation. All NRCS programs and services are voluntary.



*Helping People Help the Land*

For more information contact the:

**Natural Resources Conservation Service at the USDA Service Center for your county**

On the web at <http://offices.sc.egov.usda.gov/locator/app>

Or

Located in the phone book under 'United States Government, United States Department of Agriculture, USDA Service Centers'

Or the

**Local Soil & Water Conservation District**

(Typically co-located in the local USDA Service Center)

Office hours: M-F, 8:00 am to 4:30 pm (closed on federal holidays)

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