

Soil Conservation Week - - -Time To Plan Erosion Control

THE RECORD-HERALD AND
INDIANOLA TRIBUNE
Mon., Sept. 12, 1977 Page 4



100 Years Ago Today

Half the original topsoil, or 6 to 8 inches, has been lost from Iowa's unprotected sloping soils in the 100 years they have been farmed. At an average loss of 13 tons per acre per year, or 7/12ths of an inch of topsoil a year, the rest could be gone in the next 100 years.

It takes nature 250 to 1,000 years to build an inch of topsoil.



Conservation Tillage

Often called minimum tillage, it generally cuts soil erosion in half. The system leaves corn stalks and other crop residues on the soil surface for erosion control. A third of Iowa's rowcrop land is prepared for planting with some form of conservation tillage.



Crop residues such as this 3,600 pounds of corn stalks can be used effectively to reduce soil erosion losses by 50 to 60 per cent on much of the cropland in Warren County. The Warren Soil Conservation District encourages farmers who have not used this modern erosion control method to give it a try on at least one field or visit with a neighbor who is using crop residue to mulch the soil surface to save valuable water, soil and soil nutrients.

Crop residue left on the soil surface after planting protects the soil from the beating action of falling raindrops. Residue left at or near the surface increases infiltration of water into the soil and slows runoff from the field.

NOTE: CONSERVATION TILLAGE WORKS BEST ON SLOPING LANDS WHEN USED WITH CONTOURING AND TERRACING.

By Henry L. Staubus
District Conservationist

Soil Conservation Week, Sept. 11-17, is a good time to plan how you will control the erosion and water runoff on your land in 1977 and 1978. The Warren County Soil Conservation District recommends you consider using the following conservation practices to help control erosion on your land.

CONSERVATION TILLAGE - Leave crop residues on the surface - this mulch can reduce the erosion about 50 per cent.

CONTOUR - The sloping land to reduce soil erosion.

GOOD PASTURE MANAGEMENT - Better pasture management is needed for better forage production and better erosion control.

GRASSED WATERWAYS - Waterways that are eroding can be shaped and seeded now.

TILE OUTLET TERRACES - Parallel terraces with tile drains used as outlets provide maximum water and silt control on your cropland.

TILE DRAINS - The high clay content of the subsoil on many of our Warren County soils restricts the movement of water and causes the soil surface to remain wet for long periods, if tile drains are not used. If our soils are not adequately drained, conservation practices cannot be effectively used.

Questionnaire On Soil Conservation

1. What is the Warren County Soil Conservation District?

- a. Federal office.
- b. Local governmental body authorized by State law.
- c. County office.

A. b. District includes all of Warren County and is governed by five District Commissioners.

2. The Warren County Soil District Commissioners: Robert Morrison, Wayne Hunerdosse, Wayne Dillard, J. Robert Downing and Darrell Goodhue are:

- a. Elected at the general election for 6 years.
- b. Appointed by the board of supervisors.
- c. Appointed by the Governor.
- d. At a special election.

A. a.

3. What assistance can the Warren County Soil District provide?

- a. Soil and land capability information.
- b. Technical assistance for design, layout and construction of water impoundment structures, terraces, gully control measures, tree planting, pasture planting, and management, wildlife and recreational planning.
- c. Information on conservation measures needed to reduce water runoff and erosion.
- d. All of the above.

A. d.

4. Is cost sharing assistance available to help build tile outlet terraces on my land?

- a. Usually.
- b. Seldom.
- c. Never.

A. a. Normally cost sharing assistance at 50 per cent of the cost can be provided.

5. Soil erosion can cause problems for:

- a. Farmers.
- b. Homebuilders.
- c. Taxpayers.
- d. a, b and c.

A. d. Soil erosion is everyone's problem.

6. How long does it take nature to build an inch of topsoil?

- a. 10 years.
- b. 50 years.
- c. 20-1,000 years.
- d. 10,000 years.

A. c. 250-1,000 years.

7. Which of these contributes most to soil erosion?

- a. Stripcropping
- b. Bare soil
- c. Sediment
- d. Farming

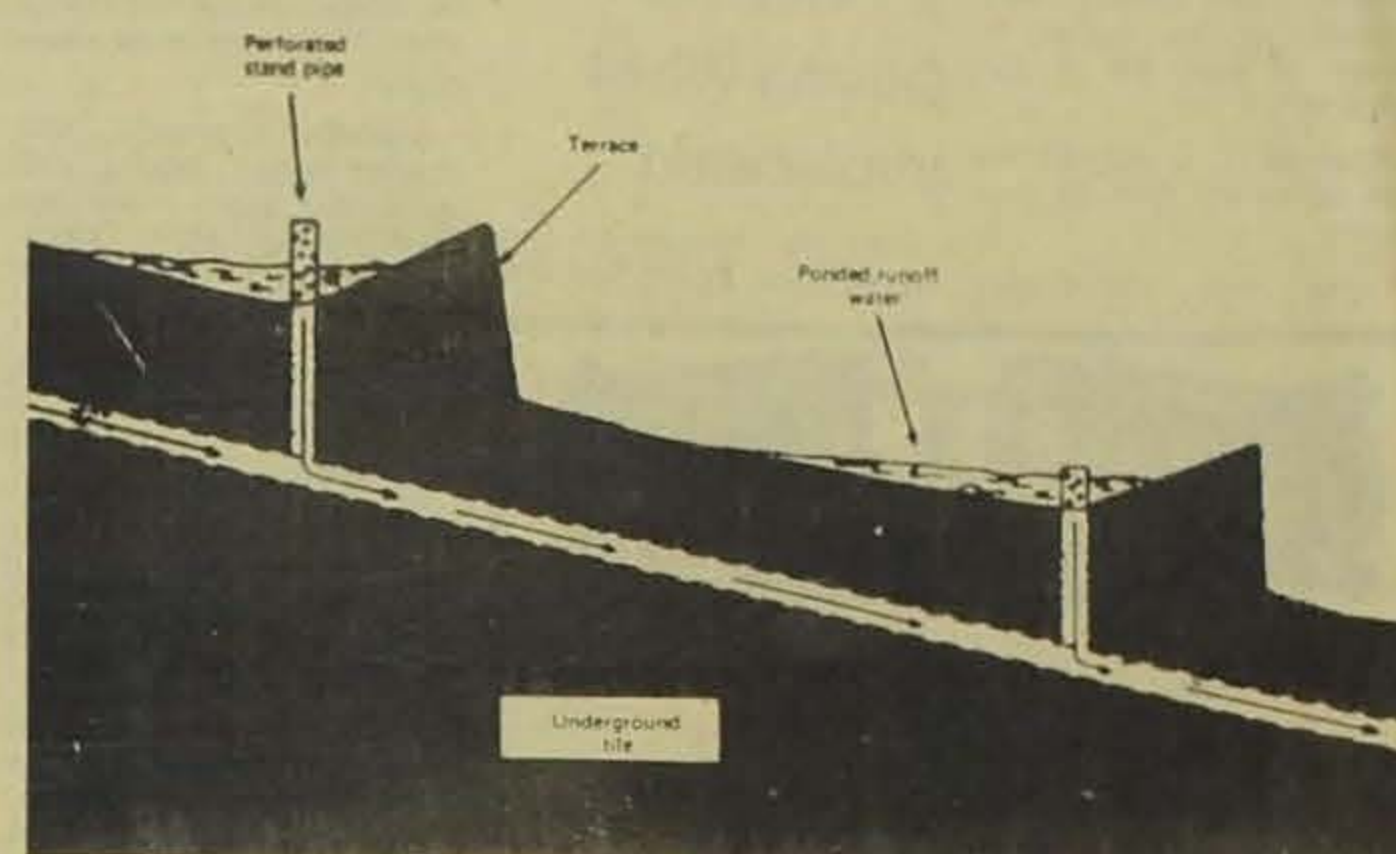
A. b. Bare soil. Farming may contribute to soil erosion; but with proper methods erosion can be held to a minimum.

8. A fairly new method farmers are using to stop soil erosion involves:

- a. Farming up and down hill.
- b. Leaving corn stalks on top of the ground.
- c. Farming around the hill.
- d. Deep plowing.

A. b. Leaving corn stalks on top of the ground. Very little of this was done before 1960 in Iowa.

TILE OUTLET TERRACES



- Water runoff between the terraces is collected in the low areas in the terrace system. The excess water that does not soak into the ground is removed slowly by the perforated stand pipes connected to the underground tile drains. In Warren County, terraces are designed to store 2 inches of runoff water from the drainage area above each terrace.
- The terraces are constructed parallel to eliminate the point rows between terraces. They are spaced so that the farmed area between terraces are a multiple of machine width.
- In addition to reducing the loss of soil, the tile drains release the water slowly and greatly reduce the peak runoff downstream.
- USDA and Iowa State University Agricultural Engineers have been measuring soil and water losses from tile outlet terraces near Eldora, Charles City, Guthrie Center and Creston. Soil Conservation Service personnel designed the terraces and supervised their construction. The terraces are on private land with management by the landowner or tenant. The terraced fields are in continuous row crop, usually corn.
- Soil loss data from the tile outlet terraces are given in the table below.

SOIL LOSS INFORMATION ON 4 IOWA TILE OUTLET TERRACE SYSTEMS

Location	Area In Acres	Terrace Spacing In Feet	Soil Type	Average Yearly Soil Loss From Terraced Land Tons/Acre	Expected Average Yearly Soil Loss w/o Terraces Tons/Acre	Average Sediment Concentration In Runoff Water Parts Per Million
Eldora	8.8	128	Fayette Silt Loam	0.34	20.25	1880
Charles City	22.8	208	Floyd Loam	0.27	18.41	800
Creston	7.9	192	Sharpsburg Silty Clay Loam	0.24	30.74	1420
Guthrie Center	11.0	128	Clarion Loam	0.38	17.62	3850



Terraces

Parallel terraces with tile drains used as outlets are a very effective water and silt control system for Warren County. The underground tile system permits the excess water to be delivered downstream very slowly eliminating the gullies and waterway problems. The terraces, a series of man-made earth dikes around the hillside, along with mulch tillage, control the erosion.

