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SEP 25 1978

Albia Union-Republican

Vol. 115 No. 38

Albia, Iowa September 21, 1978

Second Section

*Soil and Water
Conservation Week
September 17-23*



To S.O. - Better - Good section - 20 cc's

Soil and water conservation in practice

Plan the farm and farm the plan

Monroe County Soil
District Commissioners
Ollie Kaldenberg, Chairman
William McGrath
DeWayne Johnson
Albert Etcher
Raymond Vance
Assistant Commissioners
Mardyll Albertson
Linda Lingren
Steve Crall
Bob McGinnis
Robert Putnam
Lloyd Clark
Ed Mahoney

Here's the start of the farm plan for portions of the Terry Delaney farm on U.S. 34 in Wayne Township. The area covered by this plan is north of the highway. The detailed mapping with the marking of the contours, the soil types, and other details, precedes the planning for such a farm.

The cover

The cover on the soil conservation section is made up of three aerial photos taken for the U.S. Soil Conservation Service. The cover pictures the Terry Delaney farm on U.S. 34 in Wayne Township.

The pictures

Pictures in this special section were taken by personnel from the Monroe County Soil Conservation District or by Albia Newspapers staff photographers. Aerial shots were taken by staff photographers with Matt Watson flying the photo plane.

David Fynaardt farm



David Fynaardt is shown at left with one of the outlets on the new terraces which were built this summer. The backside of the terraces was seeded to grass. Fynaardt planned the construction for the summer months to take advantage of the availability of contractors and lower costs. This was in meadow last summer.



208 planning on schedule

The 208 planning effort is proceeding on schedule in Iowa, according to the Iowa Department of Soil Conservation. The process gets its name from Section 208 of the Federal Water Pollution Control Act—the law requiring states to develop water quality management programs.

Soil erosion and sedimentation are often closely related to nonpoint pollution problems. Best management practices suitable for controlling nonpoint sources of pollution are being identified in the 208 planning process.

The Iowa Department of Environmental Quality has overall responsibility for the development of the state's water quality management program. The Iowa Department of Soil Conservation has been charged with completing the non-point phase of Iowa's 208 program.

The outcome of the planning effort and the usefulness of information developed will depend on the willingness of local people to participate in the decision-making process. Their input ensures that technical solutions to problems are socially and economically acceptable.

The 208 nonpoint plans, the majority of which is scheduled for completion in November, will make Iowa eligible for federal funds providing technical and cost-share assistance to landowners for installing and maintaining best management practices in priority watersheds. However, the plan must first be finalized and submitted to the U.S. Environmental Protection Agency in Kansas City for approval.

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Quick fill

Don Tibbals, Monroe Township farmer, had these tile outlet terraces with contours parallel built this past spring. The stand of soybeans isn't too good. But these terraces have already slowed the runoff of water. Tibbals says these have filled seven times since the terraces were constructed. An outlet is visible in the center of the picture.



Windbreaks can reduce erosion

Windbreaks can reduce soil erosion. When properly designed, a single row of trees can cut wind speed by 50 percent.

Unfortunately, many farmers are reluctant to plant trees on flat farmland where wind erosion is the worst because they do not want to lose crop production, said Bill Welker, biologist for the Soil Conservation Service. What they do not consider is that in addition to reducing soil loss, field windbreaks can reduce damage to young crops caused by hot, dry winds.

Charles McLaughlin, president of the Iowa Association of Soil Conservation District Commissioners, is a firm believer in the value of trees. "Several years ago, I planted trees on some of my highly erosive soils. I only have to look at my field now to prove the value of the tree planting," he said.

A single row of trees planted in a prepared seedbed only 6 feet wide is an adequate field windbreak. Although protection decreases as you get farther

from the trees, there is some protection up to 15 to 20 times the tree height. You get maximum protection in large fields if a series of single-row trees are planted 100 to 200 yards apart, Welker said. Multi-row windbreaks, or shelterbelts, are used extensively in the plains states west of Iowa.

With a single-row windbreak, spacing between trees should be 4 to 8 feet, while shrubs can be planted 3 to 4 feet apart. When using only coniferous trees, make sure they will not be too close when full grown. A good shelterbelt should not be too dense and block too much wind.

Combinations of trees and shrubs in a single row add diversity and general beauty to the landscape. This can be accomplished by planting one or two shrubs between every two large trees.

Windbreaks can be planted on an east-west or north-south axis, or by following a contour as long as the field will be protected from prevailing wind, Welker said. Use a pre-emergence herbicide

before planting to control annual weeds since competing vegetation must be controlled. Special care and maintenance should be continued for two to three years until the trees become well established.

A variety of trees and shrubs can be used for windbreaks, but more than one species should be planted to protect against loss from disease.

Possible selections for trees include green ash, Siberian elm, basswood, eastern white pine, jack pine, Norway pine, Austrian pine, white cedar and red cedar.

The choice among shrubs might include honeysuckle, autumn olive, dogwood, wild plum and ninebark.

Planting stock is available from the state nursery in Ames, private nurseries or sometimes local soil conservation districts (SCD). Cost share funds may also be available for windbreaks, so check with your local SCD.

Financial Statement of the Monroe County Soil Conservation District

IM-BUDGET

July 1, 1978 - June 30, 1978

Fiscal year allocation from State Soil Conservation Committee	\$ 1,664.75
Commissioners travel and meals	1,073.36
Office supplies	158.30
Printing	112.84
Prizes for contest	16.49
Material for demonstration	2.36
Office Expense	291.05
Meeting Expense	10.35
Total Expenditures	1,664.75
Balance	0

IIM-BUDGET

July 1, 1977 - June 30, 1978

Fiscal year allocation from State Soil Conservation Committee	\$ 9,775.00
State Clerk's Salary	8,256.00
Travel	63.40
Federal and State Retirement	924.82
State Health Ins. Credit	362.98
Life Insurance	66.00
Disability Insurance	53.59
Total Expenditures	9,726.79
Released to Dept. of Soil Conservation	
June 30, 1978	48.21

IIIM-BUDGET

State cost-share money for permanent

Conservation practices 73-74 Allocation	\$12,246.69
Total paid on Conservation Practices	12,038.38
Released to State	208.31
Balance	0

IIIM-BUDGET

74-75 Allocation	\$12,400.00
Total paid on Conservation Practices	12,400.00
Balance	0

75-76 Allocation	\$38,514.50
Total paid on Conservation Practices	37,822.00
Released to State	692.50
Balance	0

76-77 Allocation	\$26,000.00
Total paid on Conservation Practices	25,182.38
Balance	817.62

77-78 Allocation	\$40,000.00
Total paid on Conservation Practices	15,882.14
Total funds obligated	21,922.69
Balance	2,195.17

FISCAL YEAR 1978

New Cooperators	28
New Conservation Plans	7
Group Inventories and Plans	2
Erosion Control Dams	19
Parallel Tile-Outlet Terraces	39,459
Water Impoundment Reservoirs	27
Drainage Tile	36,599
Land Adequately Treated	343



Conservation tillage on Ammons farm

This land of Alan Ammons' in Troy Township is in its third year of conservation tillage. Ammons is shown examining the results of his no-till corn crop. He started the conservation tillage program to obtain both lower machinery costs and lower operating costs. Pictured at left are the brace roots on a stand of corn in the field. The ample moisture supply early this year may leave the fall corn crop susceptible to wind and corn borer damage more than usual.

Conserve water, soil loss by tillage

Conservation tillage reduces the loss of soil or water compared to unridged, clean tillage, according to Min Amemiya, extension agronomist at Iowa State University.

Effectiveness of conservation tillage systems depends on the amount and distribution of crop residues, surface roughness and surface soil configuration, he said. Such conditions are enhanced by less moldboard plowing and unnecessary secondary tillage prior to planting.

The adoption of conservation tillage makes it possible for farmers to have efficient and profitable crop production, to conserve soil and water resources, and to improve environmental quality, Amemiya said.

Conservation tillage can lower crop production costs by reducing time, labor, and machine and fuel requirements, although some of these reductions may be partially offset by increased costs for pest control.

Crop yields usually are comparable to those from conventional tillage systems, Amemiya said, but conservation tillage requires more management. As with conventional tillage, good stands, effective pest control and adequate soil fertility are necessary for maximum yields, he added.

Conservation tillage is adapted to a broad range of soils and slopes. "It could be the single most effective and least costly means of reducing soil erosion," Amemiya said. He also noted that by controlling erosion, conservation tillage can contribute to the maintenance or improvement of water quality.

The specialist noted that Iowa is involved in a national program to maintain and improve the integrity of water.

Surface runoff from agricultural land carries pollutants into Iowa's waters, he explained.

Pollutants occur as sediment caused by soil erosion, plant nutrients, agricultural chemicals and organic matter. Of these, the major pollutant is sediment eroded from land and transported to streams and lakes by runoff waters. Thus, sediment control through soil erosion control measures can prevent or reduce the generation of sediment and related pollutants.

Conservation tillage systems control erosion on level to gently sloping land, which makes up more than half the land in Iowa.

"This does not imply that terraces and erosion control measures should not be used," Amemiya said. "But in many instances, adoption of such practices is costly or short-run economic return is low."

On sloping land, soil and water losses can be reduced by providing a mulch of plant residues or a rough soil surface. If fall tillage is necessary, Amemiya says a chisel plow can be used on the contour or across the slope. A once-over system such as a till planter or a slot planter may prove promising on sloping land, he added.

On level to nearly level land on the uplands, operations that provide surface residue and cloddy overwintering surfaces promote surface drying and protect against wind erosion. By reducing the number of trips, soil compaction and soil crusting potential are minimized. These soils are often slow to dry in the spring, Amemiya said, so some fall tillage with a chisel plow and till planting are desirable.

"The better drained the soil, the less

tillage needed," Amemiya said. Crop residue reduces evaporation of soil water on sandy soils, which makes slot planting or till planting advantageous, he added.

Using the proper tillage equipment at the right time of year and on certain soil conditions can also help soil and water conservation, Amemiya said.

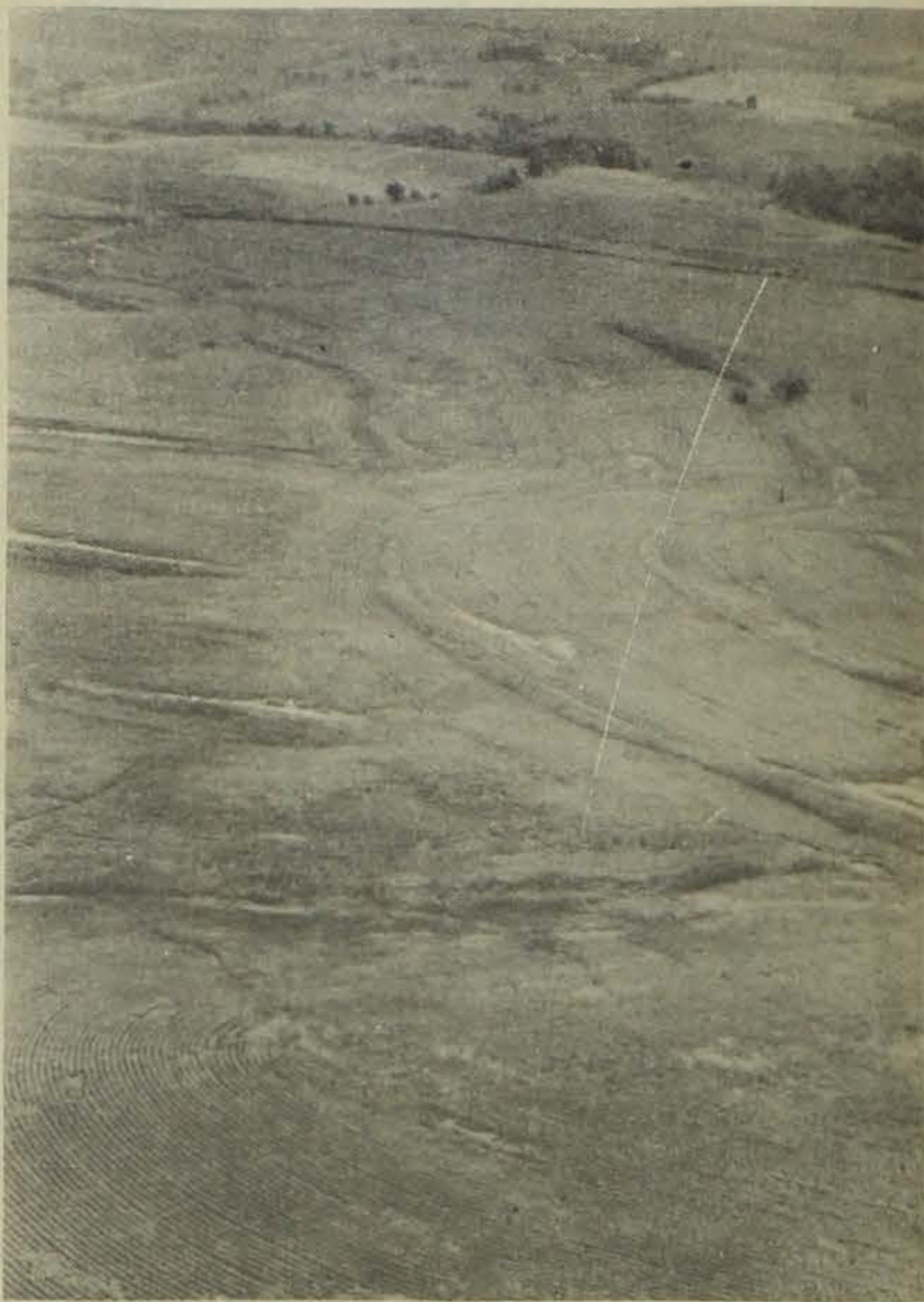
Chisel plowing in the fall is preferred over spring plowing. But using a field cultivator in the spring may not always produce desired results. Disking or strip tillage may be needed to firm the soil and provide a good seedbed to obtain stands comparable to conventional tillage.

Fall disking leaves less residue than chisel plowing and may result in more wind erosion over the winter months. Disking in the spring is well adapted to late springs when weather or soil conditions do not allow for fall or early spring tillage.

Till planting provides good stands except on poorly drained, heavy textured soils, when planting on top of ridges is more successful. Ridges should be made across the slope for best erosion control.

Weed control problems are most severe with slot planting, especially on sod, Amemiya said. "It is essential to provide sufficient weight for the coulters to penetrate the undisturbed soil. Firmness of soil with continuous slot planting decreases water infiltration, but produces the best erosion control," Amemiya said.

Amemiya suggests that Iowa farmers adopt some form of conservation tillage as part of their crop production program. "Increased use of conservation tillage will go a long way in solving Iowa's erosion and water quality problems," he said.

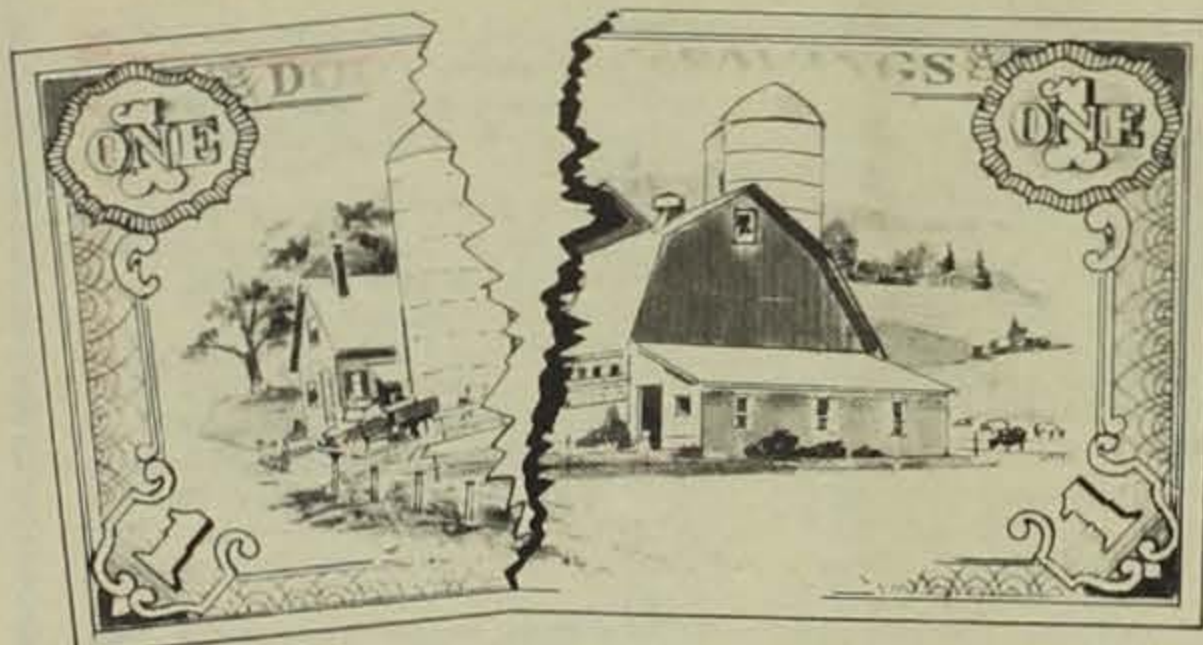


Seeded grass backslope

Mark Haselhuhn, Pleasant Township farmer, built these parallel tile outlet terraces in the fall of 1977 and added others in the spring of 1978. The land was seeded to corn this year. The backslope was seeded to grass and the water has been controlled and the erosion has been stopped.

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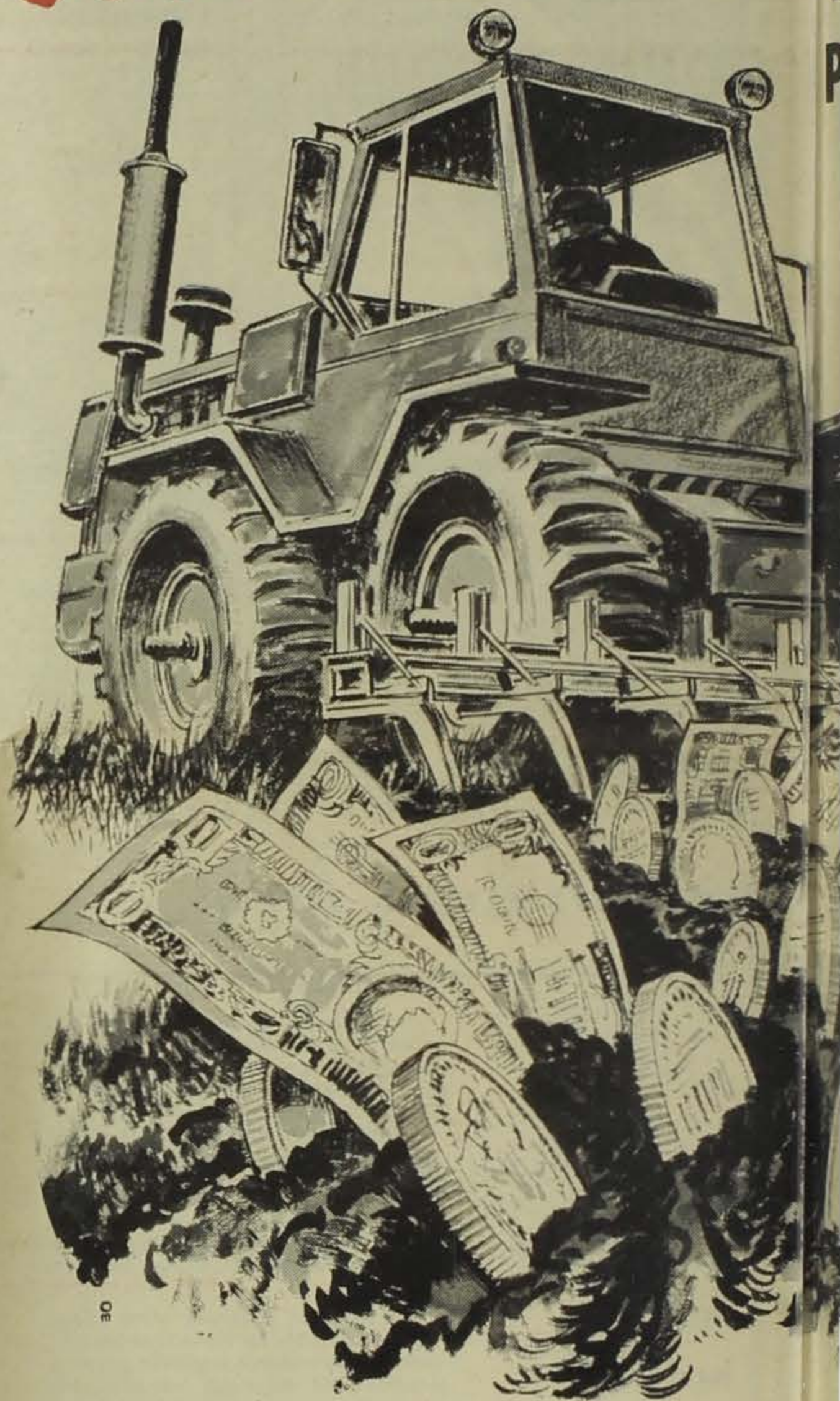
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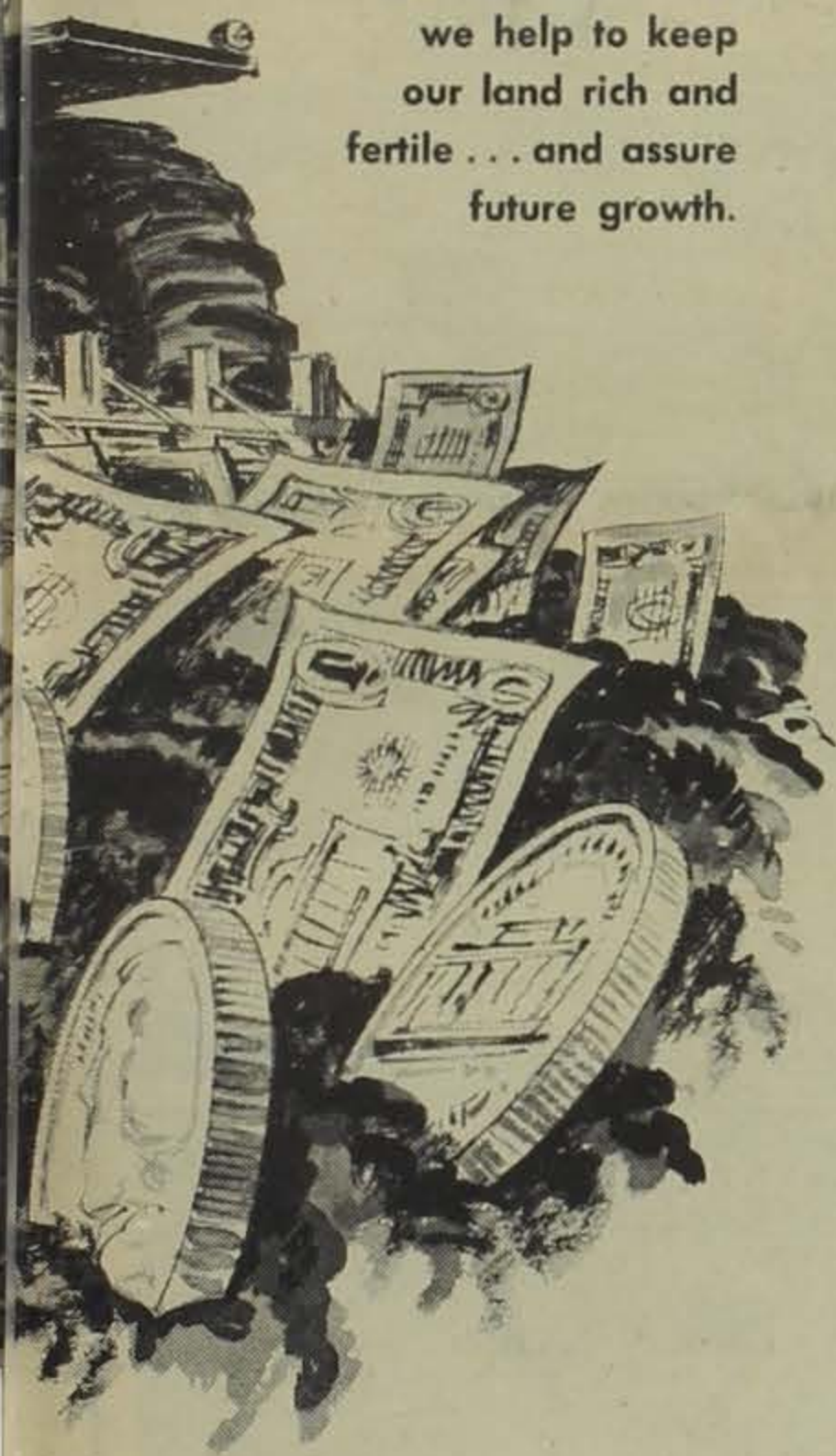
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Let's put a stop to the destructive forces that are exhausting our wellspring and initiate a constructive effort to keep this abundant land thriving. We must start now.

Soil and water conservation

The problem . . .



The solution . . .

The pictures at the left illustrate the erosion which was taking place along the roadside and on the Roy Rinehart farm in Franklin Township.

Involved in the solution were Rinehart, Monroe County, and the State of Iowa.

A structure was built to stabilize the ground below the highway. Water was impounded up to the road fill, helping to stabilize the grader ditch and prevent further erosion there.

This series of pictures of the erosion and the work in progress was taken by Keith Edwards of the Monroe County SCS office.



Graded terraces

These graded terraces on the farm of Carl F. Kietzman, Jr., in Bluff Creek Township, illustrate the lasting value of sound conservation practices. The outlines of five terraces are visible in this photo. The terraces were built approximately 15 years ago and are still serving their purpose.



Neighbors join hands

John Blomgren, Bluff Creek farmer, is pictured at the left with the outlet on terraces built this spring. But it's his neighbor's water which runs down on the land. Blomgren and James Bonnett joined in the construction of the terraces, on Bonnett's land and on Blomgren's, and cooperated to slow the runoff down to a walk.

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Livestock water pond

This new livestock water pond has a bit more water in it this week than when this picture was taken less than a week ago. It was built by Drs. Dean Stocker and Howard Lindaman as part of their Albia Animal Clinic on old U.S. 34 west of Albia. The pond was built this summer and is now being fenced.



Thursday, September 21, 1978, Albia Union-Republican, Albia, Iowa, Page 10

Surface Mining Control Act protects the environment

Those who favor coal for use as an alternative energy source and those who want farmland saved should both be satisfied with the Surface Mining Control and Reclamation Act of 1977. The act benefits both sides.

The new federal law protects the public and the environment by requiring surface miners to return land currently being mined to equal or higher quality. It also provides funds for reclamation of areas mined in the past.

Money for the reclamation comes not from taxpayers, but is paid by the mining industry, according to Rollin Swank, assistant state conservationist with the Soil Conservation Service, and Marvin Ross, director of the Division of Mines and Minerals. Both admit, however, that the cost eventually will be passed on to consumers.

A reclamation fee of 35 cents per ton of coal is levied on surface coal mining operators and put into a fund administered by the Department of Interior. This money, along with a percentage provided by the landowner, is used for reclaiming previously mined and currently mined land.

Iowa is affected because of the increasing amount of mining in the state.

About 80 acres of coal are mined each year in Iowa, but Ross said that amount is expected to increase to 150 acres by 1979. Add to that about 12,000 acres of land that has already been mined and needs to be reclaimed.

Reclaiming mineland is expensive. Estimates range from \$4,000 to \$6,000 per acre. The key to successful reclamation is planning by landowner and miner. Both must agree on how the land will be reclaimed and the anticipated land use.

In addition to the expense, there are many problems in getting mined land back to plants. The area must be smoothed, and problems with acid must be solved. Acid in coal mining areas is caused by oxygen action with pyrites in the shale, which causes sulfuric acid.

Keeping shale separate from the other soil materials and covering it with clay during reclamation helps reduce acid conditions, Ross said. Research is also being done to find more acid-tolerant plants, he added.

When reclamation is done in conjunction with active mining, some of the good soil taken from over the coal can be placed back over the regraded mine spoil. This reduces reclamation cost.

Two land reclamation programs are to be administered in Iowa by state and federal agencies. The mine landowner is

required to furnish funds in both cases.

When Iowa gets a federally approved regulatory program, 50 percent of the federal tax paid by Iowa coal miners will be returned to Iowa for use in the abandoned mine program.

Another program, the Rural Abandoned Mines Program (RAMP), is administered through the Soil Conservation Service and the amount the landowner pays is determined by a sliding scale on a cost-share basis, Swank said. The landowner pays up to 20 percent and the money from the mining fee pays the rest of the reclamation cost. The program receives 20 percent from federal money.

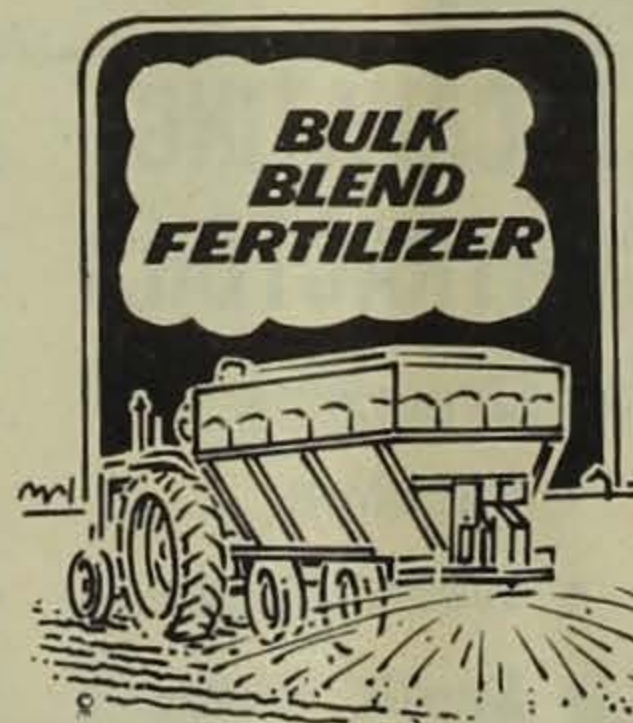
The balance of the fund is appropriated by the Secretary of the Interior, either to the state or to other programs for reclamation purposes.

Reclaiming mined land is a good idea, but 50 percent of the available funds for reclamation are contingent upon the state of Iowa developing legislation to enforce the new federal mining law, said Jim Gulliford, assistant ecologist at Iowa State University.

Iowa will have to adopt its state laws to be as tough as the federal law, he added. When the state law agrees with the federal requirements, Iowa will be eligible for federal money for reclamation.

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Charles Scott farm

Pictured on this farm of Charles Scott in Bluff Creek Township are some graded older terraces, still performing well in controlling water runoff and in preventing erosion.



Three fund sources

"At least one county in Iowa now has three sources of cost-share funds available for landowners installing permanent conservation practices," according to Leon Foderberg, resource conservationist for the Iowa Department of Soil Conservation. A newly-authorized program in Polk County, will provide \$340,000 in funds for cost-sharing with landowners over the next two years.

The program is jointly administered by the Iowa Department of Soil Conservation and the Polk County Soil Conservation District in cooperation with the U.S. Department of Agriculture's Soil Conservation Service (SCS).

The Iowa Department of Soil Conservation continues to provide cost-share money to soil conservation districts. The funds are appropriated annually by the Iowa General Assembly and channeled to districts by the department.

Since the first appropriation was made in 1973, the Iowa General Assembly has appropriated \$19.45 million for the state-funded, cost-share program. Over 10,000 landowners and district cooperators have received funds.

Allocations to districts are made on

the basis of Iowa's conservation needs inventory and are subject to approval of the State Soil Conservation Committee, the policy-making arm of the department. The district must obligate its initial allocation before asking for additional money. Unobligated funds are recalled and reallocated according to requests received.

Portions of any given appropriation are held in reserve for priority work in water-sheds above publicly-owned lakes or to be used for cost-sharing mandatory soil conservation measures required by the Iowa erosion control law.

Districts are allowed to cost share on a listing of eligible practices also approved by the State Soil Conservation Committee. Applicants must sign up as district cooperators and complete a conservation plan before they are eligible to receive funds.

The landowner cannot receive more than 50 percent of the estimated cost of the project as calculated by the district staff. It is also the landowner's responsibility to secure and supervise a contractor. Copies of paid bills must be provided by the cooperator in order to be reimbursed for the completed work.

From July 1, 1977, to June 30, 1978, \$3.2 million of these state cost-share funds were used in conjunction with the completion of some 758 miles of terraces; 514 lineal feet of sediment control basin; 163 grade stabilization structures; 237,132 lineal feet of waterways; 185 acres of pasture and hay planting; 10.3 acres of critical area plantings; and 2,640 lineal feet of field windbreaks.

The Agricultural Conservation Program (ACP) administered in Iowa by USDA's Agricultural Stabilization and Conservation Service is similar to that of other states. Iowa's ACP allotment for 1976 was \$6.8 million. The 1977 total was \$7.5 million with payments for terraces, waterways, tiling, erosion control structures, water impoundment reservoirs, and permanent vegetative cover accounting for more than 83 percent of the program payments.

The 1978 ACP program for Iowa is nearly the same as offered last year, funded at \$7.3 million.

Final determination of practices offered and the rate of cost-share assistance to be provided is made by individual county ASC committees. Payment is limited to \$2,500 per individual per year.

Everett Johnson farm

These terraces on the Everett Johnson farm in Mantua Township were built in the summer of 1978 and the end of the terraces will be extended following the crop harvest. A total of 2,500 feet of terraces have been built on the cost-sharing program.



For land's sake...

Use conservation tillage next year

These two pictures illustrate the use of conservation tillage in Monroe County. The upper picture was taken on the Dennis Crall farm and the lower picture on the Paul Koffman farm.

Farmers may use a no-till (slot till) system in which the ground is disturbed only where the seed is planted.

Till planting (strip till) is done with a special planter. The seed is planted in a narrow, tilled strip and residues are pushed or left between the rows.

Chisels, disks or other equipment can be used for conservation tillage—if the soil isn't overworked. Chiseling or disking soybean fields in the fall makes them highly susceptible to soil erosion.



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