

Ag. land disappearing fast

Agricultural land in the United States has decreased three million acres per year between 1967 and 1977. This land was converted to urban, built-up, rural transportation and water. In conjunction with this conversion it has been estimated that for each acre lost directly to urban, built-up, and transportation uses at least one more acre is isolated by leap-frog development. In Oregon during the same period, 27,000 acres per year of agricultural land were converted to urban, built-up, rural transportation and water. Total irrigated and nonirrigated cropland in the U.S. is 413 million acres in 1977 down almost six percent from 1967. These alarming statistics were reported by the National Agricultural Lands Study just completed.

With potential cropland being consumed, more and more marginal land is being converted to cropland. Water and wind erosion losses are heaviest on these lands. Twenty-five percent of all rill and sheet erosion occurs on only 15 percent of the cropped land; the marginally cropped lands. The other 75 percent occurs on land suitable for farming.

"With such huge acreages it does not mean that our land supply is endless, and if we continue to treat it as if it were, we will approach the outer limit of our productive capacity at such a rapid rate that we will find it difficult, if not impossible, to turn our society around and begin to treat our land with the care and stewardship it must have," as reported by Neil Sampson, executive vice

president, National Association of Conservation District, (NACD), in his new book, "Farmland or Wasteland."

The soil erosion process is a natural process. Manipulation of the soil by humans for food production has accelerated this process. Soil erosion is occurring at such a rapid rate now in the United States that the soil loss cannot be naturally regenerated.

Phase one of the 1977 National Resource Inventories (NRI) estimates show a national 1977 average loss from sheet and rill erosion in excess of four billion tons. If it were all concentrated in one area, four billion tons of soil loss would mean the removal of all the topsoil (six inches) from four million acres. With that kind of loss each year, it would take only 100 years to wash away every single acre

of cropland in the U.S.

At the same time as population is increasing, demand for food is also increasing in our own country as well as overseas. United States farmers send 80 percent of each acre of production overseas. It has been estimated to keep up with food demand a 1.1 percent increase in production per year will be needed. To keep up with the demand for food, researchers have identified four new technologies, that if developed, would go a long way toward answering the in-

creased demand for food. They are: better photosynthetic efficiency, development of nitrogen fixing grains, new bioregulators and twinning in beef cattle.

Conservation of cropland takes a moral commitment. The person who assumes the privileges of ownership also undertakes the responsibility for stewardship. Failure to carry out that stewardship is not only a personal failure, but also a public one that threatens the well-being of current and future citizens.

Project looks at Management Practices

By GEORGE O. GEORGE

The purpose of the project was to demonstrate, evaluate and quantify the effectiveness of Best Management Practices (filterstrips, grassed waterways or outlets, sediment basins, stripcropping, stubble mulching and terraces) adopted in 1978 by Gilliam, Morrow, Sherman, Umatilla and Wasco county Soil and Water Conservation Districts (SWCD). These demonstrations and evaluations were designed to reduce landowner uncertainties concerning benefits to be expected from Best Management Practices (BMP's) installed on their land to reduce soil erosion and improve water quality. Three years of erosion and water quality demonstration and evaluation measurements and observations indicate that terracing had the most positive effect on water quality, while dry residue in excess of 1,000 pounds per acre after seeding had the most effect on the initiation of erosion. When terraces and one other BMP were present there was a measurable reduction in the amount of erosion which showed up as less sediment in the terrace and less sediment in the runoff samples.

CONCLUSION SYNOPSIS

1. Level and graded terraces with gradients less than 0.5 percent will reduce sediment volumes carried to streams and water impoundments.

2. To keep stream flow

sediment concentrations low where storage type level terraces are used will require a pipe outlet to increase volume of available stream flow while removing sediment from areas above the terrace.

3. All sediment basins reduce the heavier silt and sands that enter streams or major water impoundments.

4. All conservation tillage that has 1,000 pounds or more dry residue on or in the top inch of the soil surface reduces erosion and the amount of available sediment for water pollution.

5. Not enough information could be obtained on strip cropping to provide adequate information to determine if reduced erosion will occur by breaking up rill patterns and this would reduce sediment amounts in the water. The first year's data indicates it would.

6. All Best Management Practices evaluated will reduce total volumes of runoff and sediment delivered to a stream or impoundment.

7. Only graded terraces, level terraces with outlets, sediment basins with outlets and grassed waterways will appreciably effect sediment concentrations in water delivered to a stream or pond.

8. Better evaluation methods should be developed to predict sediment delivery volumes at farm or watershed boundary so BMP planning recommendations can be more effectively provided to landowners.

9. Additional planning and

installation assistance to aid landowners in the appraisal and evaluation of various cultural, tillage and management practices when used in a conservation system will accelerate implementation of BMP's and resource management systems.

10. Carrying out special evaluation and demonstration projects in areas where the Best Management Practices are not being established or are being established very slowly will make landowners more aware of the value of BMP's in their farming areas.



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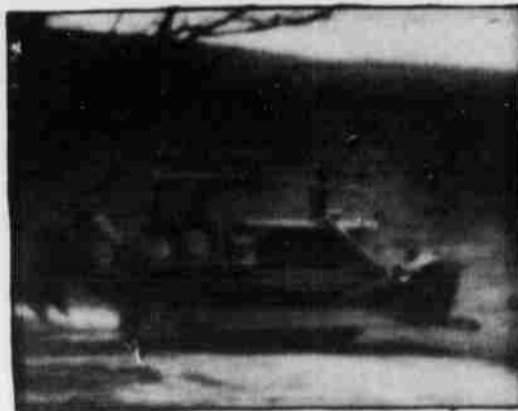
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