

Conservation Tillage-Terrace system, complimenting each other

Morrow County began using the Level Terrace Systems in 1978. During that year 78,000 linear feet were constructed. In 1979 the footage increased to 236,000 LF and in 1980 361,000 LF were installed. The year 1981 will show an increase in excess of 25 percent over the previous year. Yes, over a million LF of terraces are performing their intended function, to protect the land resource from rill and gully erosion.

Rill and gully erosion, of course, are very visible as we pass through the countryside. Erosion which can not be seen but which can be measured is of great concern in our effort to provide soil loss protection on all lands.

Sheet and wind erosion, hardly visible, but hazardous to the soil surface can erode away two to five tons per acre-per-year of topsoil. This type of erosion can be greatly reduced by proper use of crop residues. Stubble remaining from grain crops produced previously make up most of the residue available to us for the beginning of what we call "Conservation Tillage System."

By proper placement of about 1250 lbs. of residue within the top one or two inches of the soil profile we can minimize the sheet and wind erosion to a much more acceptable loss.

How much residue is produced from one acre of harvested wheat? Each bushel of wheat harvested will yield approximately 100 lbs. of residue. Thus a crop yield of twenty-five bushels per acre would provide 2500 lbs. of crop residue to begin your tillage operations.

What happens to the residue when the tillage operations

begin? Each tillage operation starts the residue depletion process.

The following operations are examples of how a variety of tillage tools deplete the surface residue.

Plow - Reduces Surface Residue 80 percent;

Heavy Disc - Reduces Surface Residue 50 percent;

Chisel - Reduces Surface Residue 25 percent

Rod Weeder - Reduces Surface Residue 10 percent;

Deep Furrow Drill - Reduces Surface Residue 20 percent.

As the figures above indicate, your choice of implements are most important in managing the residues you have available. The wrong choices rob you of a valuable erosion control product and result in the loss of soil.

To maintain 1250 lbs. of residue in the top one or two inches of the soil profile one example of a tillage operation could be: Chisel twice, rod-weed three times and seed with a deep furrow drill.

If a heavy-duty disc is your choice to replace one of the above Chisel operations, an additional 25 percent of residue would be removed from the soil surface, leaving only 900 lbs. of residue to protect the soil from erosion. This will not provide the protection needed for sheet or wind erosion.

Soil tilth and fertility continue to be important factors in the ability of soil to produce crops to its capability. All tillage operations have an adverse effect on the soil structure. Minimize your tillage operations to achieve your production goals. Use the most current technology. Con-

sider the use of chemicals in your operation. Conservation does pay. If we can assist you in your decision making, stop by and let's find out which alternatives you have and how they may fit into your program of conservation on yours and America's number one resource, land.

Elk numbers evaluated

Last March, during the annual meeting of the Morrow County Soil and Water Conservation District, the Oregon Department of Fish and Wildlife presented a program concerning the establishment of Management Objective levels for future management of deer and elk in Eastern Oregon.

Development of the objectives required an intensive examination of each deer and elk population history from data collected in the various units over the past decade. The herd levels proposed as the objective were based on what each big game range should be able to support without adding problems on private lands.

Since the presentation of the Management Objective levels last March, the objectives have received only minor refinements and a great deal of public disclosure. Starting January 12, 1981, the Management Objectives are being explained at a series of Town Hall meetings. A total of 22 such public meetings have been scheduled, ending with a March 25th meeting in Bend, Oregon.

Written comments concerning the Management Objectives will be received by the Oregon Department of Fish and Wildlife Commissioners until June 30, 1981. If you have concerns or comments, they should be mailed to: Oregon Department of Fish and Wildlife, P.O. Box 3503, Portland, Oregon 97208.

High interest in cost-share program

The Morrow County Agricultural Stabilization and Conservation Service office paid out \$92,650 in cost-shares to Morrow County farmers in 1980 through the Agricultural Conservation Program. The practice most used was terraces, but other practices such as sod waterways, grass seedings, conservation tillage, irrigation water conservation, forest thinning, debris basins, livestock wells and spring developments were also used.

In addition to the annual program a special project was started in 1980 with special funding received from the State ASC Committee. The project is known as the "Jordan Canyon Project" and consists of 19 farms and covers approximately 9,800 acres of cropland. This is a

joint effort by all the farmers in the project area to treat what is considered an area with severe erosion problems.

The total treatment of Jordan Canyon will consist of approximately 838,360 feet of terraces and 9,800 acres of conservation tillage. Additional treatment includes waterways and debris basins. It is estimated that the Jordan Canyon Project will take eight to 10 years to complete. To date, 126,330 feet of terraces have been completed, protecting 1,335 acres. Cost-shares paid out or to be paid on terracing are \$35,000.

Currently there are seven Long Term Agreements (LTA) with farmers for treating a designated field with conservation practices over a three to five year period.



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