

CONSERVATION TILLAGE : A NATIONAL VIEWPOINT

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Conservation tillage is a key feature of the National Conservation Program, a fresh approach to the U.S. Department of Agriculture's conservation assistance programs that President Reagan sent to Congress last December.

It is the spotlight as an important part of today's farming systems for several reasons.

First, it is one of the most cost-effective conservation ideas. The current financial plight of many farmers does not leave room for the installation of expensive conservation practices. Whatever the virtues of soil conservation, we are not going to be able to sell farmers on the basis of resource protection alone. At least some of the conservation alternatives we recommend have got to be cost-effective, and they must include reliable data on costs and benefits.

To help obtain this kind of information, the Soil Conservation Service has contracted with the University of Illinois to develop a computer program to show farmers the relative cost or savings--and the amount of soil saved--through the use of various conservation practices, singly and in combination. The program is called SOILEC. When it is completed in the fall of 1983, we will be able to furnish farmers with schematic diagrams on the costs and benefits of alternative practices. For most soils, SOILEC printouts will show savings in dollars and soil for the farmer who substitutes conservation tillage for conventional tillage.

Second, conservation tillage is already popular with farmers and becoming more widely accepted every cropping season. Just how fast it is growing in use is subject to some disagreement. I travel over much of the country and talk with thousands of farmers, and I see first-hand that reduced tillage, ridge tillage, no-till, and all the rest are increasing fast. No-Till Farmer estimates that 100 million acres were under some form of conservation tillage last year and that 1983's conservation tillage acreage will be up by more than 10 percent. The Farm Journal sets the 1983 figure at nearly 97 million acres--not enough difference to quibble about. The important thing is that conservation tillage in all its variations is expanding fast because it is cost-effective and because, with proper management, it works.

There also is persuasive evidence that once farmers have tried conservation tillage, they stick with it. A new study of farmer attitudes in 15 States conducted by Pioneer Hi-Bred International found that 96 percent of farmers using conservation tillage are either moderately satisfied or highly satisfied with results. Two-thirds of the farmers cited reduced soil erosion as a reason for satisfaction.

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Third, there are several efforts underway to find out how to adapt conservation tillage to more kinds of soil, more kinds of weeds, and more kinds of farmers. Farmers do need the help of scientific researchers, both public and private, to help them overcome remaining roadblocks to fuller acceptance of conservation tillage. In the spring of 1983, SCS came up with 11 priority needs from the scientific community. The list has been sent to all Federal and State research stations and to many private facilities. Priority need number two called for research to deal with several problems that have been slowing the adoption of Conservation tillage.

Farmers answering the Pioneer survey listed inadequate weed control as their leading reservation about conservation tillage. In particular, farmers need practical, safe, and inexpensive methods to control a number of deep-rooted grasses as well as certain broadleaved weeds that continue to plague us. There are several of these persistent pests in every part of the country, in every climatic zone.

Part of the impetus for further research as well as information and education about conservation tillage comes from the Agriculture and Food Act of 1981. In Title XIV, it called for expanded research to develop more cost-effective and practical conservation technologies, including conservation tillage. In Title XV, it authorized a research program to resolve questions on advantages and disadvantages of conservation tillage compared with other soil conservation practices. It also urged the Secretary to direct the attention of farmers to costs and benefits of conservation tillage for controlling soil erosion and improving profitability. The Act indicated that conservation tillage practices may reduce soil erosion by 50 to 90 percent while also resulting in better yields, greater land use flexibility, decreased fuel, use, decreased labor and equipment costs, increased retention of soil moisture, and more productive land than conventional farming practices.

Not all serious soil erosion will be reduced by conservation tillage, of course. There are problems with it, for example, in parts of the Southern Coastal Plain and in the arid West. Conservation tillage alone is not a universal panacea, and we need to keep looking for other cost-effective farming systems that perform well with conservation tillage. And, on some land being cropped today, there **is no** satisfactory answer to erosion control except to switch the land out of crops and into grass or trees--permanently.

Fourth, the Department's new Payment-In-Kind Program represents a tremendous opportunity for increasing soil and water conservation on the more than 80 million acres that will be idled for a year or more. The Agricultural Stabilization and Conservation Service estimates that as much as 3 tons of soil per acre could be saved on the diverted cropland through the required conservation management. The plant cover and crop residues also will hold more moisture on the land as well as adding nutrients to the soil. Farmers also are being encouraged to consider improving wildlife habitat.

Another welcome provision of PIK is that eligible land devoted to a permanent vegetative conservation practice can be designated as a conservation use acreage in any future diversion program through 1985--further incentive to seed diverted land to permanent cover, particularly on fragile, erosive soils.

Where the land will be coming back into crop production within a year or two, this is an excellent time for the farmers concerned to consider installing permanent conservation practices on the more erosive acres. Terraces, grassed waterways, windbreaks, and other enduring practices can be installed now without interrupting cash crops. It also is an excellent time for farmers to plan ways to fit no-till or other conservation tillage methods into their operations.

I am convinced that the single most important element in making a success of conservation tillage is the desire of the farmer to make it work. Problems always arise in switching to any new system. The determined farmer will solve his problems and make conservation tillage fit his operation. PIK and other acreage-reduction programs may give him the chance to figure out how best to do that.

Fifth, we are making determined efforts to help and encourage farmers and to answer their questions about conservation tillage. Renewed emphasis is being given to information and education in this area, not only by SCS soil conservationists but also by Extension people, conservation district leaders, and industry representatives. It is truly a cooperative effort.

Extension has been an excellent conservation partner because of its close ties with State agricultural experiment stations; a dedicated corps of soil and water management specialists; agents in every county who have the trust and confidence of many farmers and ranchers; well-established lines of communication through radio, television, newspapers, and other media; and experience in organizing successful meetings, demonstrations, and other educational events.

We in SCS look forward to increasing and strengthening our activities with Extension as well as ASCS in order to reach more land users and other citizens; to motivate them toward natural resource improvements including conservation tillage, and to help them make conservation cost-effective.

Conservation districts and their National Association of Conservation Districts deserve a great deal of credit for leadership in promoting conservation tillage, and particularly for helping create the Conservation Tillage Information Center, in cooperation with the agribusiness community and USDA. The Center is gathering and spreading information that will encourage a better understanding and more effective use of conservation tillage on American farms. A monthly newsletter already is being issued. Other parts of the Center's information network will include literature and research reviews; a speaker's bureau, demonstration project reviews, a telephone referral service; and liaison with industry, government agencies, universities, organizations, associations, farm groups and individual conservation districts.

Finally, conservation tillage will receive priority attention from the Federal government because it is an excellent way of accomplishing soil and water conservation while holding down the growth of Federal expenditures. We do spend a great deal of money in USDA to support soil and water conservation--about a billion dollars for all programs last year. But, as Secretary Block has said, "There's no way we're going to solve all the conservation problems by buying terraces on all the land that could use terraces, or building structures everywhere that we could build structures, because there isn't that much money in the Federal government or in the States.

"The real solution to erosion is going to be provided by the farmer-on his land. He's going to do it once he becomes fully convinced that conservation tillage and other improved tillage techniques are in his best interest. It will be in his interest because it keeps his land in place for his children. Or because if he wants to sell the land it's going to sell for more. Or because he can make more money by using conservation tillage."

It has been estimated that it would cost USDA some \$21 billion just to cost-share the construction of terraces on all the "problem" acres--about \$150 for each of the 140 million acres that erodes at a rate of more than 5 tons an acre each year.

We still need terraces, and many other practices as well, based on the conditions and opportunities on each parcel of land. But conservation tillage can either do the same job for less or it can enhance the usefulness or effective life of these other practices when combined with them.

The need to curtail Federal spending remains urgent. The national debt, the result of accumulated Federal deficits, has passed the \$1 trillion mark. That represents almost \$5,000 for each man, woman, and child in the United States. By mortgaging our future in this way, we are narrowing our options for the future.

The steadily increasing use of conservation tillage by farmers who voluntarily want to improve their natural resources and protect their land's productivity can help us all meet economic and environmental aims at the same time.