3-19-1981

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COOPERATIVE EXTENSION SERVICE *United States Department of Agriculture Cooperating*

Economics Newsletter

Editor: Donald C. Taylor

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No. 159 March 19, 1981

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The dominant issue in U.S. agricultural policy during the 1950's and 1960's,the control and management of agricultural surpluses, was defused by a rapidly growing export demand for American agricultural products during the 1970's. To meet the growing demand, additional land was brought under production and cultivation practices were intensified. A probable continued strength in the export demand for U.S. food and feed--generated by increased population and per capita income in many parts of the world--plus the growing demands on agricultural resources for energy production are expected to further intensify pressures on U.S. soil and water resources during the 1980's. In this issue of the Newsletter, the natural resource and energy components of agricultural policy are emphasized.

The U.S. is estimated to have about 413 million acres of available cropland, and an additional 127 million acres of pasture, range, and forest land with medium to high potential for crop production. The 387 million acres actually cropped in 1980 is about 16% more than that cropped a decade earlier.

Since the first land to be brought under cultivation tends to be that which is most well-suited for production, successive increments of land placed under cultivation are usually increasingly subject to soil erosion.

Erosion currently occurs at relatively low rates on most agricultural land. On two-thirds of the nation's land, the annual rate of topsoil erosion is less than 5 tons per acre. On 17% of the cropland, however, erosion losses exceed 10 tons per acre. Much of the serious erosion occurs in the Corn Belt, Delta States, and Tennessee.

Soil and water conservation

U.S. policy toward soil erosion has its roots in institutions established during the 1930's. The U.S. Soil Conservation Service (SCS), established in 1935, remains the principal source of farm-level technical assistance for erosion control. A major source of financial assistance for erosion control is the Agricultural Conservation Program (ACP), which is administered by the Agricultural Stabilization and Conservation Service (ASCS).

More recent legislation addresses the water pollution resulting from soil erosion and associated phosphate and pesticide runoff. Section 208 of the Federal Water Pollution Control Act of 1972 called for the development of plans by State-designated planning agencies for the control of non-point water pollution sources. The Clean Water Act of 1977 led to the Rural Clean Water Program (RCWP), which provides cost-sharing for conservation measures associated with approved 208 plans.

Energy: a new competitor for soil and water resources

Historically, cheap energy has helped "fuel" the U.S.'s agricultural development and food production. However, fossil fuels are no longer cheap, and energy as an agricultural input is expected to become increasingly expensive throughout the 1980's. This means that agriculture will undergo adjustments--in response to both the changing structure in its input costs and the increased demands for biomass fuels.

The push for biomass fuels could be soil depleting. Whether it is will depend on the type of biomass products drawn on and the ambitiousness of biomass programs.

Alcohol fuel production over the next several years will draw largely on starch crops, principally corn. At 1 billion gallons of alcohol fuel per year--about 8 times the current level but still only about 1% of total annual U.S. gasoline consumption--the competition of fuel production with food and feed production for soil and water resources would not be great. Effects on crop prices, land use, and soil erosion would likely be moderate. Production of 3 billion gallons of alcohol fuel per year from starch crops, however, could put significant pressure on the nation's soil and water resources.

Some people look forward to a time when alcohol fuels will be produced largely from sugar crops (such as sweet sorghum) and cellulous products (such as corn stover). If that becomes economically feasible, and care were taken to limit the removal of crop residues, biomass fuel production could be expanded with less pressure on natural resources than with starch crops as the principal source of biomass fuel.

Key policy issues

Several key conservation issues are involved in agricultural and related natural resource legislation for the 1980's. One issue is the mix of voluntary, regulatory, financial incentive, and technical assistance measures to encourage soil conservation. Purely voluntary measures sometimes fail to encourage adequate conservation, since some benefits accrue to non-participating farmers, non-farmers, and future generations. Some observers feel that existing conservation cost-sharing and tax incentive measures fail to elicit sufficient farmer participation. Cross-compliance conservation strategies could also receive consideration. Such strategies would require farmers to comply with certain soil conserving measures to benefit from particular supply control, price support, target loan, or disaster assistance programs. Although pursuing such strategies would help integrate production-adjustment and resource-conservation programs, their political acceptability and operational feasibility are yet to be ascertained.

Another major policy issue is financing of biomass fuels development. Some of the financial assistance programs for synthetic fuels that were begun under the previous Administration in Washington are now receiving serious political challenge. There are many honest differences of opinion regarding the nation's synthetic fuels program, including the portions covering biomass fuels. However, if alcohol fuels production is to be greatly expanded during the 1980's, it will likely be necessary to continue major financial assistance through some combination of subsidized loans, tax breaks, and price guarantees and to carry forth a substantial research effort.

If the commitment to a major biomass fuels program remains largely intact, there is potential for fuel production to compete noticeably with food and feed production for the use of our soil and water resources. While direct controls on the use of land for biomass fuel crops would be impractical, Federal and State synthetic fuels financing and tax policies could be used to influence the course of biomass fuel development. If the conversion of crop residues to alcohol fuel becomes economical, more direct regulatory and incentive measures may also be required to limit residue removal and soil erosion.

2500 printed for educational purposes at an estimated cost of 2¢ each