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EDITORIAL

Sustainable Agriculture and the 1995 Farm Bill

At intervals of about 5 years, the Congress enacts major legislation that includes goals for the conduct of food production and agricultural research. The outcome this time will be impacted by budget-cutting. A reduction of as much as a third in the current $62-billion budget of the U.S. Department of Agriculture (USDA) could occur. Funds for plant and animal agricultural research by the USDA (about $1.4 billion) are likely to be at hazard when the axe falls. That would be regrettable. Plant and animal science hold promise of great additional future societal benefits.

Discussions of many issues affecting agriculture were on the agenda of a three-day symposium titled, "Sustainable Agriculture and the 1995 Farm Bill," 23 to 25 January, held on Capitol Hill in Washington. The meeting was sponsored by the Council for Agricultural Science and Technology (CAST). Its membership includes 30 scientific agricultural societies. Much of the meeting was devoted to aspects of "sustainable agriculture." Members of Congress, agricultural scientists, environmentalists, and farmers were among the speakers.*

The Food, Agriculture, Conservation, and Trade Act of 1990 (Farm Bill) contains 1300 pages and thousands of provisos. Title XVI of the bill deals with agricultural research. It consists of 49 sections. One of these implicitly defines the goals of sustainable agriculture: "(1) maintain and enhance the quality and productivity of the soil; (2) conserve soil, water, energy, natural resources, and fish and wildlife habitat; (3) maintain and enhance the quality of surface and ground water; (4) protect the health and safety of persons involved in the food and farm system; (5) promote the well being of animals; and (6) increase employment opportunities in agriculture."

In another section, further goals for research include: "(A) reduce, to the extent feasible and practicable, the use of chemical pesticides, fertilizers, and toxic natural materials in agricultural production; (B) improve low-input farm management to enhance agricultural productivity, profitability, and competitiveness. . ."

Some features of farm policy and funding are in conflict with the objectives of sustainable agriculture. To remain a recipient of federal funds under a major commodity price support program, a farmer must persist in monoculture. It is also in his financial interest to apply large inputs of fertilizers and pesticides.

When Congress attempts to direct agricultural research, it is shooting at a moving target. Since 1930, yields of field crops have been improved by as much as a factor of three. The older procedure of plowing to control weeds was unsustainable. It led to increased soil erosion and destruction of the organic content of the soil by oxidation. The current no-till procedure reduces erosion and leads to a buildup of organic matter. Because of improvements in herbicides, the quantities needed have been reduced.

Best practices in agriculture vary from crop to crop, field to field, region to region, and year to year. The need for inputs of agrichemicals is correspondingly variable. Precise global positioning capabilities now are being increasingly employed, along with soil analysis and pinpointed measurement of crop yields. Within a given farm the quality of soil, for example, its nitrogen, phosphate, potassium content and pH vary greatly from point to point. Applications of soil amendments can be closely controlled to minimize inputs and to maximize yields.

Several speakers at the symposium mentioned the industrialization of agriculture. The fraction of grain harvested by small-scale farmers is declining. Most production of meat animals and poultry already is being conducted in large facilities. A consequence is decay of rural America. Speakers cited comparative advantages accruing to large-scale grain and animal producers by the impact of state and federal regulations. These are administered by a number of agencies that have differing objectives, some of which are in conflict. Farmers say they are willing to comply with sensible regulations. They are opposed to arbitrary federal and state mandates. Several speakers at the symposium commented that farmers are aware of the financial burden of excessive agrichemical inputs. They also said that farmers considered themselves stewards of the land and believe it is in their self-interest to conserve and improve the quality of the soil.

Philip H. Abelson

*Proceedings of the symposium will be published soon by CAST (phone 515-292-2125).