
Locating New Ways To Generate Farm Dollars

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A priority of the recently established Office of Grants and Program Systems (OGPS) within the Cooperative State Research Service, U.S. Department of Agriculture (USDA), is to look at new ways for farmers to use their land. Work there focuses on four complex and diverse areas: industrial materials, aquaculture, small-scale agriculture, and low-input agriculture. Specific projects deal with crops as different as okra, crawfish, and guayule. The goal is to provide alternative opportunities for farmers in cooperation with the private sector and other USDA and State agencies.

Assisting OGPS in providing alternatives for U.S. farmers are the Agricultural Research Service, Forest Service, Economic Research Service, and cooperating State agricultural experiment stations for research; and, for education, the Cooperative Extension Service and the National Agricultural Library.

Finding New Uses

Finding novel or alternative uses for farmers to work the land is not new, but it is even more important today

because of intense international competition and changing consumption patterns.

Global economic changes of the past 5 years have upset the U.S. agricultural and forestry export and import trade and caused as much as a \$22 billion drop in U.S. sales of these products abroad from 1981 to 1985. This resulted in reduced land values and financial hardships for many farmers.

Diversification many see as agriculture's best response to this situation—diversification into both food and nonfood production areas, and away from sole emphasis on a few major crops. OGPS works to provide farmers with options, ranging from farm-grown fish to newsprint, to produce cash crops leading to developing new markets for domestic agricultural products.

OGPS projects are usually 2-4 years, with public-private partnerships established through USDA cooperative agreements. The agency arranges demonstration projects to help sell commercial participants on promising results from research. Capitalizing on



Kenaf, which can go from a seed to a 10-foot-tall plant in less than 4 months, is harvested in Texas. After processing, the fiber becomes the morning newspaper. (Dan Kugler, CSRS)

the research and development of the Agricultural Research Service, and State agricultural experiment stations, projects build new, emerging agricultural industries in the private sector.

The Federal Government in demonstration projects recognizes that the processing and market sector does not necessarily have a vested interest in agriculture. A third party is often needed to develop mutual interests. Long-term investment strategies in new enterprises can be encouraged by partnerships between the private and the public sectors. The private sector

must identify the market, while the public sector provides technical expertise, seed money, and the linkage of production, processing, and marketing sectors. Clearing regulatory roadblocks is an important OGPS function.

The Office of Critical Agricultural Materials

Established in 1984 by PL98-284, this office seeks to develop new domestic sources of materials essential for the Nation's economy and in the process open opportunities for producers here. Many of these materials currently are

imported, and domestic production could ease U.S. dependence on foreign sources.

Four domestically grown crops are most promising for commercial development. Crop demonstration projects are underway for two of them—guayule, a shrub, and kenaf, a plant. For crambe and winter rapeseed, oilseeds which produce high erucic acid, project plans are being developed.

Department of Defense (DoD)/USDA Guayule Agreement.

A 27-month Joint Guayule Domestic Rubber Project agreement was signed in 1986. Ground will be broken in 1987 on a prototype plant in Arizona operated by The Firestone Tire & Rubber Company. The goal is to produce about 50 tons of rubber for test and evaluation to see if the rubber meets DoD's standards of heat resistance and durability. DoD has agreed to purchase up to 20 percent of its annual tire-rubber requirements if the process works.

USDA will use DoD funds for technical assistance and cooperative agreements with universities and others to strengthen research and development efforts and to explore alternative market opportunities. At the same time, USDA and the State agricultural experiment stations will provide additional money for guayule research.

Kenaf Demonstration Project.

This project was begun in 1986 with a cooperative agreement between CSRS and Kenaf International. The objective is to demonstrate the economic viabil-

ity of kenaf as a fiber of choice for use in manufacturing newsprint—a commodity imported at a cost of \$3 billion annually. The use of this crop will not replace wood chips as the major raw material source, but in some markets there are price and quality advantages. For example, it uses less ink, produces whiter paper, and requires less energy to process. The growing area for kenaf is across the southern tier of the United States.

Work in 1987 includes commercial paper machine and pressroom runs and evaluations of the kenaf newsprint system from seed production to daily newspaper. Large-scale kenaf farming for newsprint manufacture is not expected until the 1989 or 1990 growing seasons. In the meantime, work will focus on converting existing mills, evaluating a second non-competing market in the felt industry, planting more acreages in selected States improving harvest and fiber handling methods, and developing public and private partnerships towards the commercialization of kenaf.

High Erucic Acid From Crambe and Winter Rapeseed Industrial Oils. A planning conference sponsored by USDA, Iowa State University, Kansas State University, and the University of Missouri concluded that current erucic acid oil markets rely on foreign sources, but that production technology is sufficient for establishing a domestic production system.

High erucic acid uses include its inclusion in nylon products for gears, fasteners, and tubing and in lubri-

cants. Government and private industry are identifying the most promising markets to explore.

The Office of Aquaculture

Established by the Agriculture and Food Act of 1980 and the Food Security Act of 1985, this Office is USDA's focal point for coordinating the development of aquaculture with 12 USDA agencies and many outside USDA.

Production. The U.S. aquaculture industry is growing rapidly. The U.S. trade deficit in fish and shellfish continues to climb as does per capita consumption of aquatic foods. In 1985, the net deficit for edible fish products was \$3 billion. The total U.S. trade deficit in fish products, including those used for both edible and industrial needs, was \$8.6 billion.

OGPS recognizes the need for a strong domestic aquaculture industry to increase domestic production of fish and shellfish and reduce U.S. dependency on foreign suppliers. The industry offers, as well, economic benefits in rural America as a source of alternative crops and the creation of jobs.

Centers. By acts passed in 1980 and 1985, Congress authorized the establishment of four aquaculture research, development, and demonstration centers in association with colleges and universities, State departments of agriculture, Federal facilities, and nonprofit private research institutions. The centers are located in Hawaii, Massachusetts, Mississippi, and Washington.

Hybrid/Striped Bass (HSB)

Demonstration Project. HSB is

intended to demonstrate the economic viability of HSB farming as a crop alternative for east coast farmers and watermen. Midwest production also is possible.

East coast populations of striped bass have declined and most coastal States have prohibited fishing for them. The seafood industry is seeking alternative sources, and farmers are seeking production alternatives. Producing these fish would fill a market void, and a premium price could be demanded for the product.

A small, ongoing research project on the Eastern Shore of Maryland is to be expanded to a production level demonstration farm for HSB, using the expertise of Federal, State, university, and private interests. Approximately 30 acres, 24 of which will be under water, will produce at least 60,000 pounds of fish.

The Office for Small-Scale Agriculture

This Office, established in 1986 by the Secretary of Agriculture, improves the flow of information on small-scale farming to agricultural producers and consumers. The Census Bureau indicates that the number of small farms increased 17 percent during a recent 5-year period and that many small farms are operated by part-time farmers who produce diverse agricultural products including vegetables, fruits, nursery plants, honey, and livestock.

Small farms have increased in number and importance as a result of

consumers' increased preference for fresh and locally grown farm produce, as well as because of the increase in direct marketing including local retail farm markets.

The Office publishes a bimonthly newsletter on small-scale farming systems for researchers and Extension personnel, assembles information on USDA research and education of benefit to small-scale agriculture, and monitors and conducts regional and national conferences on small-scale agriculture.

Low-Input Agriculture

This approach to farming encourages greater use of systems that provide special benefits; for example, use of nitrogen-fixing species and pest control that depends heavily on using crop rotation, spacial diversity of plants, and cover crops. Fertilizer and pesticide use is still necessary, but at reduced levels. With lower commodity prices, farmers must find ways to reduce input costs and enhance net returns rather than use technologies that emphasize larger yields.