

Energy Grants and Loans Available

Rural Business-Cooperative Service (RBS), an agency within the United States Department of Agriculture Rural Development, has announced that it is accepting applications for fiscal year 2008 to purchase renewable energy systems and make energy efficiency improvements for farmers and rural small businesses.

This program offers grants, guaranteed loans, and combination grant/guaranteed loans to help farmers and rural small businesses purchase and install renewable energy systems and make energy efficiency improvements.

These funds can be used to update and replace existing equipment. Updating and improving the energy efficiency of grain dryers has been by far the top use of the program, but awards have been given for projects including biomass, ethanol or biodiesel plants, wind generators, geothermal and energy efficiency projects for buildings, industrial and grain dryers.

Application Due Dates

✓ Grant-Only Applications

First round applications are due by April 15, 2008.

Second round applications are due by June 16, 2008.

✓ Guaranteed Loan-Only Applications


Last day to submit applications is June 16, 2008.

\$204,953,560 is available for both guaranteed loan-only and combination applications.

✓ Combination Grants & Guaranteed Loans

The last day to submit applications is June 16, 2008.

\$204,953,560 is available for both guaranteed loan-only and combination applications.



A bioreactor, like this one, will be used in a pilot project in the Raccoon River watershed in 2008.

ACWA to Install Bioreactors in Iowa's Raccoon River Watershed

Agriculture's Clean Water Alliance (ACWA), a group of 16 agricultural retailers organized to reduce nutrient loss from farm fields in the Raccoon River and Des Moines River watersheds, is supporting a tile line bioreactor pilot project in the Raccoon River watershed in 2008.

The project is being conducted in collaboration with ACWA's farming partners and an emerging partnership with U.S. Department of Agriculture, Soil and Water Conservation Districts, the National Soil Tilth Laboratory, Agri Drain and the Ag Drainage Management Coalition.

Dr. Richard Cooke, associate professor of agriculture engineering at the University of Illinois, is a leading bioreactors researcher. Dr. Cooke says the systems work, but they are not fully understood.

"The identity and community dynamics of microorganisms participating in denitrification in tile drain bioreactors is unknown, apart from our findings that both bacterial and fungal species are important to the process," Cooke says. "We surmise that the fungi break the cellulose in the wood into smaller organic molecules, which the bacteria then use in their metabolic processes."

Bioreactors are essentially underground trenches filled with a carbon

source, commonly wood chips, through which tile water is allowed to flow. The carbon source provides material in which microorganisms can colonize. Using the wood chips as a food source, the microorganisms begin breaking down the nitrate through a denitrification process, and expel the nitrate as a gas.

The systems are easy to construct, relatively inexpensive, take little or no land out of production and are believed to require little maintenance. There are no adverse effects on crop production, and they can be designed to not restrict drainage. Early research has found nitrate removal efficiency averaging between 25 to 35 percent.

ACWA will install initial bioreactors in the West Buttrick Creek and Hardin Creek areas of Greene County. The Greene County District Conservationist is interested in working with ACWA, and there are several farmers who are willing to demonstrate the practice.

Once installed, the units will be tested for effectiveness. ACWA will be observing nitrate levels in its water-monitoring network above and below each site to evaluate the performance. If the bioreactors are proven effective in the Raccoon River watershed, they could become one of several integrated solutions for improved water quality.