

FOSTERING ENTREPRENEURSHIP

Public-private partnerships advance green energy, bioproducts

The Ohio Agricultural Research and Development Center is partnering with businesses to bring knowledge to the marketplace and put Ohio on the forefront of the emerging bioeconomy.

One example is the collaboration with **quasar energy group** (formerly Schmack BioEnergy), which produces biogas from municipal and agricultural waste and turns it into electricity. The Cleveland-based company has set up a laboratory and engineering office on OARDC's Wooster campus, and is working with researchers to optimize methane-production technologies.

In addition, **quasar** is interested in commercializing an OARDC-patented process for converting solid wastes, such as yard trimmings and crop residue, to methane. This innovation can produce double the biogas as conventional liquid biodigesters and recycle the effluent coming out of those systems, reducing the cost of disposal and benefiting the environment.

More information:

<http://www.quasarenergygroup.com/pages/oardc.html>

"OARDC has the brain power, the talent, and the facilities to help us get a jump-start on these technologies," said Clemens Halene, quasar energy group's vice president of engineering. ▶



"Ohio has enough biomass to set up more than 7,700 biogas plants, which could create more than 100,000 jobs."

— Clemens Halene,
Vice President
of Engineering,
quasar energy group

FROM LABORATORY TO MARKET

OARDC's Ohio BioProducts Innovation Center (OBIC) partnered with Natural Fiber Composites Corporation (NFCC) to create the new generation of composite materials from plant-derived fibers — for use in transportation, construction, consumer, and industrial products. Results:

- A \$3 million Third Frontier award, matched by another \$3 million from private partners
- A pilot plant in Wooster, producing 6 million pounds of fiber materials a year and employing eight people
- Expected to generate \$12 million in revenue and 37 jobs in Ohio by 2012

Show and Tell

In order to showcase its technology, **quasar** is planning to build a biogas facility on the OARDC campus. Among its features:

- 500,000-gallon digester capable of processing 40–50 wet tons of waste per day
- Capacity to produce 400 kW of electricity
- Ability to supply one-third of the Wooster campus's energy needs, providing a green energy source for the BioHio Research Park and the campus

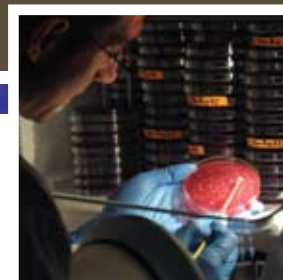
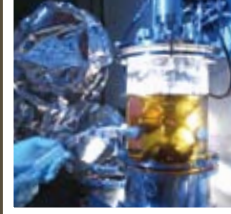
OARDC has worked closely with over 100 companies on sponsored research projects during the past five years.



BRINGING KNOWLEDGE TO LIFE

<http://www.oardc.osu.edu>





OHIO AGRICULTURAL RESEARCH AND DEVELOPMENT CENTER

As the research arm of The Ohio State University's College of Food, Agricultural, and Environmental Sciences, the Ohio Agricultural Research and Development Center (OARDC) employs nearly 650 scientists and staff members throughout the state, conducting research that benefits all Ohioans. OARDC's Wooster campus is the largest agbioscience research facility in the United States, and OARDC scientists work closely with researchers in Ohio State's Colleges of Education and Human Ecology, Medicine and Public Health, Veterinary Medicine, Biological Sciences, and Engineering. Research support is provided in three signature areas:

- **Advanced Bioenergy and Biobased Products**
- **Environmental Quality and Sustainability**
- **Food Security, Production, and Human Health**

For more information, see the CFAES Strategic Plan at <http://cfaes.osu.edu/about-us/>.

At any given time, OARDC scientists are engaged in more than 400 research projects in the areas of agricultural, environmental, and development economics; food, agricultural, and biological engineering; animal sciences; entomology; food animal health; food science and technology; horticulture and crop science; human and community resource development; human ecology; natural resources; and plant pathology. OARDC also trains graduate students in each of these areas.

The Ohio General Assembly established OARDC as the Ohio Agricultural Experiment Station in 1882. Since its founding, OARDC has been a leader in research that makes a difference for Ohioans and for the world.

OARDC is supported by a line-item appropriation from the Ohio General Assembly, competitive grants, gifts, contracts, federal grants, and other sources. OARDC uses these funds to provide direct research support and economic development for Ohio's annual \$90+ billion agbioscience industry. OARDC is not funded by student tuition or any other general funds of The Ohio State University.

OARDC is...

- **Nationally ranked in the top 10 in terms of research cited.**
- **The largest and most comprehensive agbioscience research facility in the United States.**
- **Credited with more than 30% of all royalty income for The Ohio State University.**
- **Involved in annual collaborations with more than 130 businesses throughout the world.**
- **Credited with a 110% increase in grants and industry support for its scientists since 2001.**
- **Some 230 scientists conducting more than 400 research projects annually.**
- **A generator of more than \$1 billion of annual economic impact and cost savings to Ohio and the United States.**

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