

# BIORENEWABLE SYSTEMS

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<b>Graduate Program Head</b>	Suat Irmak
<b>Program Code</b>	BRS
<b>Campus(es)</b>	University Park (Ph.D., M.S.)
<b>Degrees Conferred</b>	Doctor of Philosophy (Ph.D.) Master of Science (M.S.) Dual-Title M.S. and Ph.D. in Biorenewable Systems and International Agriculture and Development Dual-Title M.S. and Ph.D. in Biorenewable Systems and Operations Research

**The Graduate Faculty** View (<https://secure.gradsch.psu.edu/gpms/?searchType=fac&prog=BRS>)

Biorenewable systems are the structures and processes that create and support sustainable biologically-based products capable of being continuously replaced through sound technology and management. The BioRenewable Systems (BRS) degree is offered as a resident instruction, research-based M.S. and Ph.D. programs. The degree requires a thesis at both levels.

The BRS graduate program encompasses renewable biologically-based materials, products, and processes and fully integrates scientific research with the principles of systems technology, business, management, marketing, leadership development, and entrepreneurship. Toward that end, the academic requirements for BRS are closely related to the disciplinary focus of agricultural and biological sciences, technological innovation and application, and business, management, and leadership within the continually evolving biobased sectors. This multidisciplinary aspect makes BRS unique from other fields of science and management. To promote and fulfill this uniqueness, the continuation of courses in science, business, management, and technology at the graduate level is encouraged and expected.

Excellent facilities, including equipment and instrumentation, are available for research in the designated areas. Collaborative arrangements allow access to a large variety of other resources:

- Materials Research Institute;
- Penn State Institutes of the Energy and Environment;
- Huck Institutes of the Life Sciences;
- Housing Research Center;
- USDA Pasture Systems and Watershed Management Research Lab;
- a mushroom research and demonstration facility;
- and a 1,500-acre agricultural research center for cooperative work with agronomic and horticultural production systems as well as animal production systems.