

Department of Veterinary Science Profile



Report to Stakeholders

August 2011

About the LSU AgCenter

The LSU AgCenter is dedicated to providing innovative research, information and education to improve people's lives. Working in a unique statewide network of parish extension offices, research stations and academic departments, the LSU AgCenter helps Louisiana citizens make the best use of natural resources, protect the environment, enhance agricultural enterprises and develop human and community resources.



Academic/Research/Extension Highlights

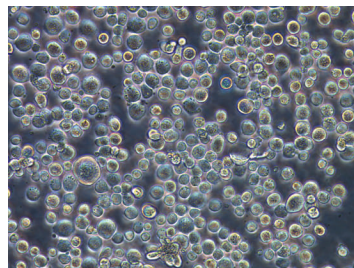
—The LSU AgCenter Biotechnology Laboratory (ABL) is a core facility that provides basic and applied research expertise to support development of superior agricultural products and therapies that will enhance economic development in Louisiana. ABL fosters partnership among individual scientists, academic units, private companies and government agencies to create business opportunities that benefit Louisiana.



—The ABL was formed in 1998 to provide support to faculty in performing biomolecular research. In 2010, the ABL was merged with the Protein Facility in LSU's College of Basic Sciences. Today, the ABL consists of two facilities, the Protein Facility and the Animal Cell Culture Facility. Both facilities are dedicated to providing research support to investigators in the LSU system as well as those in other academic institutions, government agencies and industry.



—The Protein Facility offers large- and small-scale peptide synthesis, preparative and analytical scale HPLC, protein expression and purification, circular dichroism, SDS/PAGE, 2-D electrophoresis, blotting, isoelectric focusing and digital image acquisition and analysis. Total genomic RNA or DNA extraction and purification from different organisms can be performed. Small- or large-scale plasmid DNA preparation and purification from *E. coli*, *Agrobacterium* or insect cells are available. The Protein Facility also provides plant tissue culture and transformation of a variety of plant systems in areas of interest in plant biology research.



—The Animal Cell Culture Facility provides tissue culture to a wide variety of researchers. It contains equipment and all materials for the storage and maintenance of animal and human cell lines. We maintain over 100 cell lines and regularly order new cell lines as needed. While we strive to keep our lab pathogen free, we provide cells for the growth of specific pathogens in other labs. The facility has the capacity to produce hybridomas and primary cell cultures, if

required. The facility frees investigators from the time-consuming task of maintaining reliable contaminant-free cell cultures as well as reducing the need for biosafety cabinets, incubators and LN2 storage tanks in numerous labs throughout campus.

Department of Veterinary Science Office

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Academic Focus:

Participates in the professional curriculum at the School of Veterinary Medicine, pre-veterinary classes and graduate education.

Research Focus: Conducts innovative animal health research of worldwide importance on infectious and parasitic diseases of livestock, wildlife, fish and oysters to assure the continued health and productivity of these industries.

Extension Focus:

Knowledge gained from research and collaborative efforts with Agriculture Experiment Stations, the SVM, and Pennington Biomedical Center is disseminated to the public through outreach programs.

Significance of Programs

—The ABL recently entered into an agreement with a group of researchers from Louisiana, Alabama and Montana to develop and synthesize targeted therapeutics for the treatment of a variety of diseases, including cancer and AIDS as well as wound care, contraception and antimicrobials.

— LSU AgCenter personnel from Facilities and Planning, the Department of Veterinary Science and the Central Research Station have designed an isolation facility which will be available to collaborators from within the LSU System as well as infectious disease scientists throughout the country.

— Projects include animal modeling and vaccine delivery systems, Anaplasmosis vaccine production, aquaculture vaccines, diagnostic methodologies, reproductive control strategies, cancer treatments, and pharmacological protein production.

Future Plans

— The second phase for the LSU AgCenter Animal Sciences, Food Science and Veterinary Science Departments' renovation and modernization project received a reauthorization in this year's capital outlay bill. Pending approval by the State Bond Commission, construction on a two-story laboratory building connecting Francioni Hall and the Food Science Building will begin. This new state-of-the-art facility will provide laboratories for Veterinary Science researchers as well as researchers from the School of Animal Sciences and Department of Food Science.

— The Infectious Disease Isolation Facility (IDIF) contains 15 individual rooms approved for ABL2 studies and a laboratory suite with a BSL2 anteroom and two BL3 labs, each containing a small animal room. This new facility will be operated under all required approvals and regulations to ensure safe, secure, and efficient animal research is conducted which benefits both human and animal health.

— To expand the small ruminant goat disease model, including white tailed deer, for infectious agents affecting livestock and wildlife.



Department of Veterinary Science Facts

— Harry Morris, D. V. M. graduated in 1910 from the Ohio State University. He was Department Head of Veterinary Science from 1925-1934.

— 20 faculty and 12 support staff

— Has close associations with Sea Grant and the LSU SVM through teaching and graduate education

— Seats the LSU AgCenter Institutional Animal Care and Use Committee (AgIACUC)



LSU AgCenter Departments and Schools

Maximizing the potential for the state's agricultural industries and improving the quality of life for all Louisiana citizens are the major initiatives of the LSU AgCenter.

To achieve its mission of serving the people of Louisiana and providing them with the latest research-based information on a vast variety of topics, the LSU AgCenter operates 11 academic departments/schools in Baton Rouge in conjunction with the LSU College of Agriculture. In addition, four other specialized departments also contribute to the mission. These 15 units are an integral part of the LSU AgCenter's research and outreach activities.

Faculty members in the LSU AgCenter's on-campus units are involved in a variety of efforts, including research, classroom teaching and extension education. They cover topics ranging from agricultural economics to human ecology and from entomology to experimental statistics.

The LSU AgCenter has the most successful record of commercialization of intellectual property in the LSU System. Since 2000, nine new companies have been started based on licensed technology from LSU AgCenter. The income is distributed among the LSU System, the inventors and more research.



For the latest research-based information on just about anything, visit our website: LSUAgCenter.com

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Louisiana State University Agricultural Center: William B. Richardson, Chancellor, Louisiana Agricultural Experiment Station: John S. Russin, Vice Chancellor and Director, Louisiana Cooperative Extension Service: Paul D. Coreil, Vice Chancellor and Director
The LSU AgCenter is a statewide campus of the LSU System and provides equal opportunities in programs and employment.