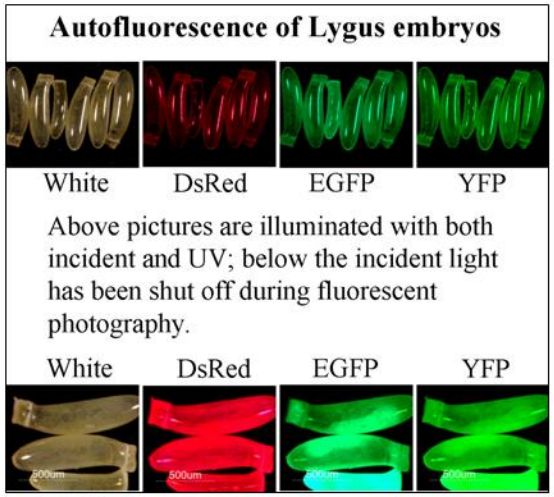
NBCL—continued

The Mid-Delta area contains many private research and development agrochemical and seed companies. NBCL is expected to stimulate further increase in local agricultural industries. The ARS Program is partnered with the Mississippi Agricultural and Forestry Experiment Station (MAFES) Program.

Additional NBCL laboratory and office space are located in the adjacent Stoneville Research *Quarantine Facility* (SQRF). This APHIS/MS State approved facility consists of 3,400 sq. ft. of quarantine space, 2,600 sq. ft. of non-quarantine workspace, and 1,200 sq. ft of equipment space. Many of our worst pests are invasive species from other countries. The SQRF allows for the importation, evaluation, and release of co-evolved biocontrol agents from the pest's site of origin, as well as research to genetically improve beneficial organisms.



Tarnished plant bug killed by fungus

Fermentor used for mass production of biological control agents

The NBCL Mission is to conduct research that will lead to the development and transfer of technology for the mass propagation and use of beneficial organisms for control of pests. These pests include: insects, mites, weed and brush, plant diseases, and nematodes. The NBCL is responsible for transferring technologies for the biological control of pests to the pest control industry supplying beneficial organisms to support commercial agriculture.

***Architect**, Barlow · Eddy · Jenkins, P.A., Jackson, MS*
***Contractor**, Pryor & Frazier Const., Inc., Tupelo, MS*
***Research Leader**, Douglas Streett*
Biological Control of Pests Research Unit

USDA—ARS

For information, contact:
Edgar G. King, Jr., Area Director
Jamie Whitten Delta States Research Center
Stoneville, MS 38776
Phone: 662-686-5265
E-mail: edgar.king@ars.usda.gov

USDA

USDA—ARS

NATIONAL BIOLOGICAL CONTROL LABORATORY

Jamie Whitten Delta States Research Center

Stoneville, Mississippi

59 Lee Road, Stoneville, MS

53,000 square feet — 15 scientists / 35 support staff

The National Biological Control Laboratory

The USDA-ARS National Biological Control Laboratory (NBCL) is located at the Jamie Whitten Delta States Research Center (JWDSRC) in Stoneville, Mississippi. The NBCL will provide an interdisciplinary team of scientists with facilities for basic and applied research towards developing practical methods of mass propagation, storage, and delivery of beneficial organisms, as well as targeted release strategies for integrated pest management. Scientists housed in the NBCL are from four research units: Biological Control of Pests, Southern Weed Science, Southern Insect Management, and Crop Genetics and Production Research Units. NBCL is the first facility in the world to have the combination of scientific specializations for fully integrated research in biocontrol technology.

Only organisms that have been approved by Federal and State officials for release in the United States will be propagated and studied there.


Kudzu Biocontrol


Kudzu Research


Fire ants will do anything to resist attack by the tiny phorid fly.

The use and encouragement of beneficial organisms to fight pests is a powerful and economical part of integrated pest management. But biocontrol agents often number too few to be effective. Developing the industry that provides beneficial predators, parasites, and microbes for augmenting beneficial numbers will improve our battle against agricultural and urban pests. To foster this industry, USDA has built this uniquely integrated facility where researchers are developing methods for propagating, storing and actively using beneficial organisms.

The 53,000 sq. ft. facility includes separate wings for work on macroorganisms and microorganisms. The wings are designed to prevent accidental escape of the microorganisms and contamination of the macroorganisms and to facilitate interaction among researchers.

The ***research area*** is separated from the mass culture area by an airlock/shower. This area includes a room for media preparation, and separate rooms for the fermentors and bioreactors, with computer control of all processes located in rooms with window viewing access. Cold storage of product is immediately adjacent.

The ***Insect Wing*** is compartmentalized and progresses from office area to insect research laboratories to multi-species rearing of insects to the pilot plant area, which is dedicated to private sector involvement.

There are eight insect rearing rooms with the capability to closely monitor and control temperature, relative humidity control, and lighting. There is an extensive food preparation area, which includes the capability of customizing many diets using the diet mixing room, the diet preparation room and the form-fill-seal food packaging machine.

The ***Microbial Wing*** is compartmented and progresses from offices to microbial research, to microbial mass culture to grow-out rooms to harvest areas, to the pilot plant area. The microbial research area consists of six individual laboratory rooms that minimize the potential of cross contamination of product. This area also contains a central location for joint use equipment, and a separate room to contain sterilization equipment.

In addition to the research labs, space is provided for two pilot plants (2,500 sq. ft. and 5,000 sq. ft.). These plants will be used in cooperation with private organizations to test the practical applications of propagation techniques and to foster commercial production.


Aflatoxin Control