

New Facilities for Solving Agricultural Problems

Protecting Plants From Emerging Challenges

Agricultural problems go global quickly. Winds blow rust spores from Africa to South America to the United States. Insects and other pests hitchhike with international travelers and trade, and migratory birds carry diseases across international borders. We need to respond rapidly to overcome plant threats from the far corners of the earth.

These threats have prompted a mini-building boom of biosafety facilities on the St. Paul campus. No other Midwest land-grant university has such a combination of quarantine and biosafety laboratories to study emerging agricultural problems.

New secure laboratories on the St. Paul campus enable scientists to solve problems fostered by soybean aphids and other invading insects, soybean rust and other emerging dangerous pathogens, and devastating livestock diseases. These secure laboratories meet exacting federal standards to assure that scientists can examine dangerous pests without threat to local crops, animals or the researchers themselves.

Plant Pest Power

The Plant Growth Facility project on the St. Paul campus is a powerful tool in researching plant diseases, teaching students and increasing agricultural productivity. The \$24 million Plant Growth Facilities project includes classrooms, 15,000 square feet of growing space in state-of-the-art greenhouses, an Insect Quarantine Facility and a Plant Pathology Maximum Containment Facility.

The Insect Quarantine Facility allows researchers to analyze the potential usefulness of beneficial insects in the control of soybean aphids, buckthorn, garlic mustard and other pests.

The \$6 million Plant Pathology Containment Facility will provide the University and state agency researchers with the necessary high security for research on economically and ecologically important plant pathogens affecting crops, horticultural plants and forests. The facility is expected

to receive approval from USDA-APHIS in 2008. Only three similar facilities in the United States are allowed to work with and conduct research on exotic plant pathogens.

Livestock Disease Expertise

A \$2.5 million Biosafety Level 3 (BSL-3) addition to the Veterinary Diagnostic Laboratory will provide a safe working environment for researchers in the event of an outbreak of serious diseases, including the highly pathogenic avian influenza virus (bird flu). The BSL-3 necropsy laboratory will also be used to contain other high-risk pathogens associated with diseases such as bovine tuberculosis, chlamydiosis, tularemia, anthrax, West Nile and rabies.

This new research tool will help veterinarians protect and promote animal and human health through early detection and monitoring of animal diseases.

These research facilities help provide the basic scientific knowledge that drive applied research on crops, livestock and renewable fuels at Research and Outreach Centers at Crookston, Grand Rapids, Lamberton, Morris, Rosemount and Waseca. Investing in agricultural research yields benefits for our farmers, our economy and our quality of life.



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