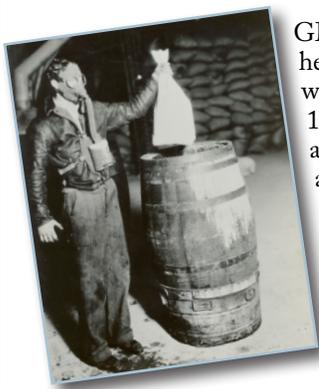


Introduction to GMPRC

The Agricultural Research Service's Grain Marketing and Production Research Center (GMPRC) is the only United States Department of Agriculture research laboratory in Kansas. GMPRC scientists are recognized world-wide for innovative research and technology development to measure, protect and control the quality of cereal grains, utilize and handle grain and its products, and understand and mitigate wind-caused soil erosion.



GMPRC is located in the heart of the Great Plains, which includes all or part of 13 states and produces 2/3 of all US wheat, corn, sorghum and soybeans.

USDA-funded scientists have been working in Manhattan, Kansas since 1919 when cereal pathologist C.O. Johnston was first stationed here.

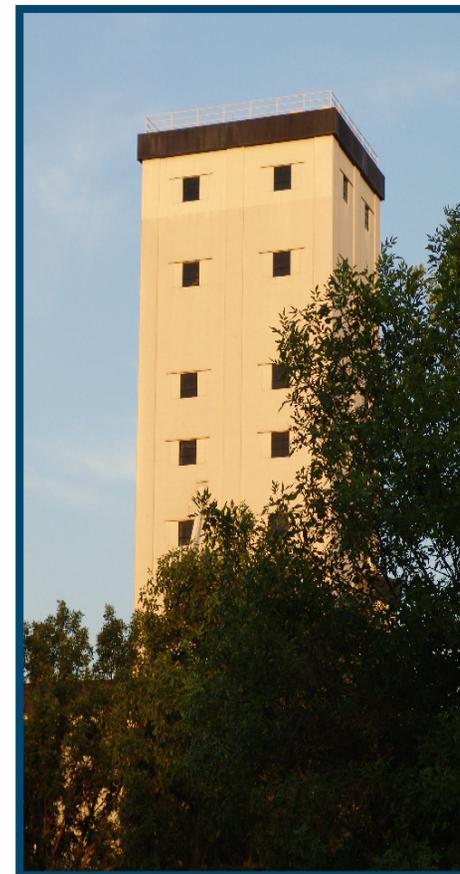
USDA plant breeders came on-board in the 1920s and 30s. In 1935, entomologists investigating stored product insect pests came to Manhattan as part of the Midwest Grain Insects Investigation Unit. The Dust Bowl events of the mid-1930s led to the establishment of the High Plains Wind Erosion Laboratory at Kansas State University in 1947. The various USDA scientists were eventually consolidated into the Grain Marketing and Production Research Center and in 1971 a new research facility was constructed on a 12 acre site near the KSU campus. The facility, which recently completed a modernization project, continues to house most of the Manhattan-based USDA research programs.



There are approximately 100 employees including more than 30 scientists working at GMPRC. Each research unit has a unique mission, interacts with key stakeholders and contributes to one or more ARS National Programs. Facilities include a 60,000 ft² laboratory/office building and the nation's only 50,000 bushel research grain elevator.

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GMPRC



Grain Marketing and Production Research Center

Manhattan, Kansas

"Conducting innovative research and developing new technologies to improve natural resource conservation and the production, harvesting, storage, marketing and utilization of grain."



Grain Marketing and Production Research Center

1515 College Ave., Manhattan, KS 66502

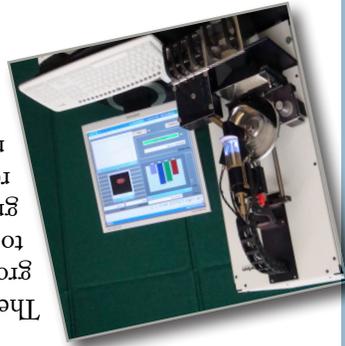
Phone • (800) 627-0388

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Web • www.ars.usda.gov/npa/gmprc

Engineering and Wind Erosion Research Unit

The Engineering and Wind Erosion Research Unit is made up of two projects: an **Engineering Research Project** and a **Wind Erosion Project**.



The Engineering Research group: develops technology to measure and preserve grain quality, and to reduce wind erosion. To meet industry needs, this group:

- Develops technology to select kernels with specific quality traits for breeding lines;
- Develops image based sorting devices;
- Provides improved storage and handling techniques;
- Provides engineering expertise to other disciplines, such as developing techniques to rapidly measure characteristics of insects, including vectors of infectious diseases.

The Wind Erosion Research group:



- Develops an improved Wind Erosion Prediction System for cropland and is extending it to range, forest and disturbed lands;
- Increases the understanding of particulate emissions from wind erosion processes;
- Develops economically and environmentally viable practices, guidelines and systems that customers can apply to control wind erosion.

Grain Quality & Structure Research Unit

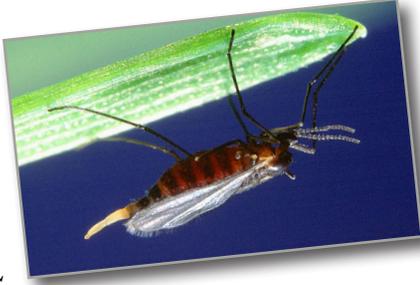
The Grain Quality & Structure Research Unit, which includes the Hard Winter Wheat Quality Laboratory, ensures the safety and superior quality of the U.S. grain supply for the consumer by:



- Conducting basic and applied research to identify the physical characteristics and structural/biochemical components governing grain quality;
- Developing rapid, precise and accurate predictive technologies for cereal grain quality
- Evaluating the end-use quality of cereal grain breeding lines.

Plant Science & Entomology Research Unit

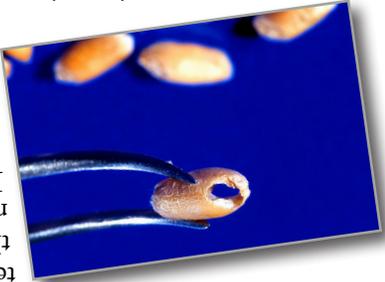
The Plant Science and Entomology Research Unit (PSERU) provides new genetic solutions for wheat production problems. PSERU objectives are:



- Develop adapted hard red or white wheat breeding lines with improved resistance to biotic and abiotic constraints;
- Increase understanding of the molecular basis of parasitism, host resistance and stress tolerance in wheat;
- Develop and apply traditional and marker-assisted selection technology to breed more efficiently for these traits.

Stored Product Insect Research Unit

Formerly known as the Biological Research Unit, the Stored Product Insect Research Unit conducts research on stored-product insects to develop pest management technologies



- Efficient use of insecticides and physical control technologies, such as aeration or heat treatments;
- Ecology, population dynamics and behavior of pest and beneficial insects to optimize integrated pest management systems;
- Developing novel insect control techniques based on genomics and proteomics.

Collaboration with Kansas State University

Kansas State University (K-State) has a world-renowned reputation in agricultural research, education and extension. GMPRC scientists enjoy a close-working relationship with scientists at K-State, and the Plant Science and Entomology Research Unit is housed on the K-State campus.



A majority of GMPRC scientists hold adjunct appointments at K-State, where they participate in joint cooperative research activities. There are also approximately 65 K-State students who work at GMPRC each year.