

Crops, Soil, and Natural Resources Still Relevant



Wheat breeder Allan Fritz inspects wheat being grown in a K-State greenhouse.

Agronomy Farm near campus was purchased. Most of that land is still used for research and to provide hands-on experience for students, with the close proximity to campus being extremely valuable in fulfilling the teaching, research, and extension missions of the department. Additional land with different soil characteristics also was purchased south of Manhattan.

The current student organization, the Wheat State Agronomy Club, has its roots in the Klod and Kernel Klub organized in 1916.

K-State's wheat breeding program began in 1917 and ranks among the best

in the United States. To date, 45 wheat varieties have been developed. In 2012, 23 percent of Kansas wheat was planted to K-State varieties, with Everest as the most popular. A study by agricultural economist Andrew Barkley, published in 2008, showed that "the benefits of the wheat breeding program appear to outweigh the costs by 17 to 1."

In addition to crops, grassland for the cattle industry plays a crucial role in Kansas. The range management program was initiated in 1919, and the 2,105-acre Rannells Ranch was bequeathed to the program in 1989. K-State agronomists pioneered research on burning rangeland and continue to be involved with best practices for managing smoke in the Flint Hills.

Agronomy students first competed in crops judging in Chicago in 1923, winning four of their first seven competitions. K-State crops judging teams boast 15 national championships

in the last 20 years. Students also successfully compete in soils and weeds judging.

Because precipitation, temperature, elevation, and soil vary dramatically across Kansas, crop varieties that perform well in southeast Kansas do not fare well in semi-arid western Kansas. To address that problem, research centers and experiment fields have been established across the state.

The department opened the first county soil testing lab in Cowley County in 1947. The department maintains an analytical services lab on campus for research and individual soil testing, which provides valuable information to K-State Research and Extension agents statewide.

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Department faculty have a tradition of national leadership, producing six presidents of the American Society of Agronomy and two presidents of the Soil Science Society of America.

Department Head Gary Pierzynski sees a bright future for the department and the profession as a whole.

"We are actively engaged in a significant portion of a food system that feeds the entire world," Pierzynski said. "Our graduates are in high demand. In a state like Kansas, our recommendations have profound positive impacts on how the landscape is managed, and consequently, influence the economy, the environment, wildlife habitat, and many other aspects of life that benefit every citizen in the state. Our research contributes to the technological advances that are essential to our ability to feed a growing world population."

This article includes highlights from *K-State Agronomy, A Century Remembered*, edited by Gerry Posler and Gary Paulsen. For more details, see www.agronomy.ksu.edu.

Producing crops, maintaining soil fertility, and conserving natural resources have been important to the success of Kansas since Kansas State Agricultural College was established in 1863. Agronomic research began at the college in 1874, and the first variety test results were published in the 1880s; however, the Department of Agronomy wasn't officially established until 1906.

"Agriculture is a business; it is not truly a science, but it depends on science, and to understand the principles of agriculture requires knowledge of many sciences ... including physics, botany, chemistry, geology ...," said A.M. TenEyck, the first department head.

TenEyck forged relationships across the state by developing an extension system to share research-based information generated at the college through the press and via "Farm Institutes."

In 1909, the 320-acre North