

October 2017

## The Curiosity of Collections: A Behind-the-Scenes Look at What's in the Drawers, Cabinets and Refrigerators of K-State Collections and Why It's Important

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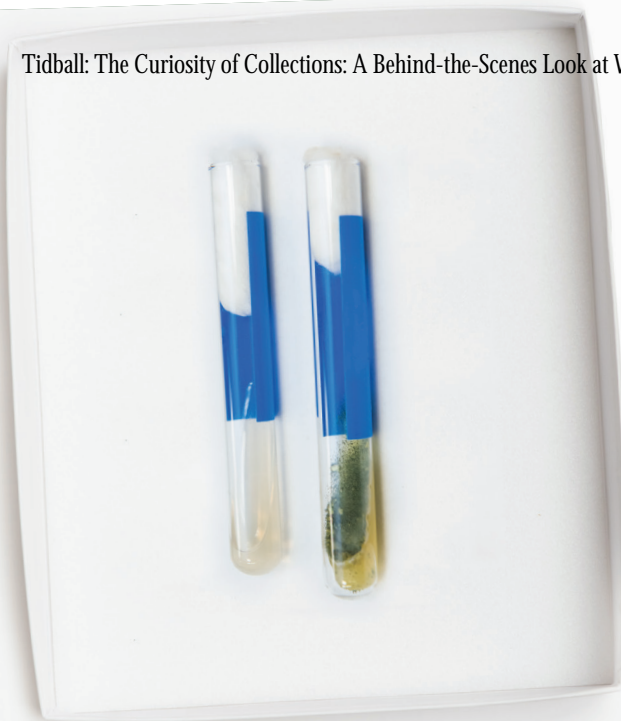


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### Recommended Citation

Tidball, Jennifer (2017) "The Curiosity of Collections: A Behind-the-Scenes Look at What's in the Drawers, Cabinets and Refrigerators of K-State Collections and Why It's Important," *Seek*: Vol. 7: Iss. 2.

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# THE CURIOSITY OF COLLECTIONS

A behind-the-scenes look at what's in the drawers, cabinets and refrigerators of K-State collections and why it's important

*By Jennifer Tidball*

Collective treasures abound across Kansas State University's Manhattan campus.

On the north side of campus, a refrigerated storage room contains wheat seed that helped grow ingredients for your morning toast.

Drawers in Waters Hall are filled with colorful butterflies, long-legged beetles and tiny wasps that provide more than 100 years of entomology data.

Throckmorton Hall has rooms of refrigerators and freezers filled with fungi, some of which came from World War II cotton tents and may be key for biofuel development.

Rows of wardrobes in Justin Hall contain regal textiles from China's Ming dynasty and thrifty clothing made from cotton feed sacks during the Great Depression and World War II.

These are the collections at Kansas State University. From science and natural history to the arts, these collections contain valuable treasures that are used for research, development, exhibits and scholarly activity.

And their scope is staggering.

The Cookery Collection with K-State Libraries special collections maintains more than 38,000 cookbooks and volumes in multiple languages from 1487 to the present. The Herbarium preserves more than 180,000 plants from the Great Plains and around the world. The Beach Museum of Art has more than 900 pieces from famed artist John Steuart Curry.

But behind the numbers is a passion for sharing these collections and the treasures they contain. Turn the pages to learn more about seven of the university's collections.

*Items on Page 20 include from top left: Late Antique/Early Byzantine linen fragment; glass tubes of agar media without Trichoderma, left, and with Trichoderma, right; and wild wheat seeds. From center: longhorn beetle in the family Cerambycidae and vegetative shoot of Phlox hirsuta. From bottom left: juvenile cookbook and page proof illustrations for "My Friend Flicka" by John Steuart Curry.*

## K-State Museum of Entomological and Prairie Arthropod Research

**Description:** A natural history collection of insects and other arthropods from the Plains and prairie states as well as around the world

**Website:** [biodis.k-state.edu](http://biodis.k-state.edu)

**Specialties:** *Hymenoptera* (ants, bees, wasps); *Lepidoptera* (butterflies and moths); leafhoppers; flies

**Year founded:** 1879

**Size:** More than 360,000 specimens

**Curator:** Gregory Zolnerowich, professor of entomology



*The entomology collection includes a variety of specimens.*



*The zebra swallowtail, Eurytides marcellus, can be found throughout the eastern U.S.*



*Gregory Zolnerowich*

From the bright blue butterflies of Papua New Guinea to tiny ticks and the brown-patterned moths found on the Konza Prairie Biological Station near Manhattan, the university's entomology collection shows the diversity of insects and the ways they evolve — vital information for tracking insect-borne diseases, too.

“The value of this collection is it gives a picture of what insect is in a particular place at a particular time,” said Gregory Zolnerowich, curator of the K-State Museum of Entomological and Prairie Arthropod Research. “If you put these pictures together, you can understand the past and make predictions for the future.”

For Zolnerowich, it is especially important to maintain the collection's digital database and make it accessible to scientists and students for research and education.

Zolnerowich is collaborating with 28 other institutions through a National Science Foundation-funded project called the Lepidoptera of North America Network, or LepNet. The project is linking collections of North American Lepidoptera — butterflies and moths — to create a common digital database of information and images for researchers nationwide.

Several K-State College of Veterinary Medicine researchers recently used the collection's historical data to model suitable habitat and potential range expansion of the lone star tick. The findings are important for tick control because the species can carry human and animal diseases.

The collection's Plains and prairie emphasis helps K-State Research and Extension county agents diagnose pests or emerging species. Organizations such as the Kansas Department of Agriculture, Kansas Forest Service and the U.S. Department of Agriculture also turn to the collection for its valuable research specimens and data.

“Think of a collection as a library,” Zolnerowich said. “Just as you can't have every book in the library, you can't collect every specimen you need for a project. Instead, scientists can use our collection to complete their research. We're a scientific resource that serves the systematics community.”

## Historic Costume and Textile Museum

**Description:** A notable collection of traditional and artistic artifacts, including clothing, textiles, accessories and quilts

**Website:** [he.k-state.edu/hctm](http://he.k-state.edu/hctm)

**Specialties:** Nelly Don dresses, American quilts, military uniforms, Byzantine-era textiles, and Chinese and other ethnic textiles

**Year founded:** 1873

**Size:** More than 17,000 holdings

**Curator:** Marla Day, senior curator

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*This 1930s floral dress is made entirely of patterned cotton feed sacks used to sell flour.*



*South Korean artist Ki-Yong Kang designed this silk scarf.*

**H**istorical messages are present among the clothing racks in the Historic Costume and Textile Museum.

Handmade children's shoes show the love and attention devoted to dressing even the smallest family members. Ming dynasty textiles from the 1500s portray the respect for royalty through detailed stitchwork. Military uniforms display the awards and pins of brave soldiers.

“This is more than a collection of clothing; it’s a collection of history,” said Marla Day, museum curator. “By studying what people wear, we learn more about their lifestyles and values. Each item is a snapshot of a certain period of time.”

From life on the farm to couture fashion, the museum documents what people wore and why it was important. The museum includes clothing, textiles and accessories from the fourth century to present day.

Collection highlights include dresses from Kansas-born fashion designer Nell Donnelly Reed, or Nelly Don; Chinese textiles from the Ming dynasty; American quilts; salon shoes; military uniforms; Byzantine-era textiles; ethnic textiles; and Midwestern clothing and textiles.

The museum collaborates with local and regional museums, and collection objects have been used by Columbus College of Art & Design in Columbus, Ohio; the American Jazz Museum in Kansas City, Missouri; and the Lakeside Arts Park at the Dole in Crystal Lake, Illinois. A current exhibit at the university’s Marianna Kistler Beach Museum of Art explores how Americans used feed sacks to make clothing and other items during the 1930s.

While exhibits educate visitors, scholars and students also use the collection to study historic textiles and costume and fashion trends.

“Dress is important,” Day said. “What you’re wearing sends a message to others. This collection helps us understand those messages of other times and places.”



*Marla Day*

## Kansas State University Herbarium



*This Maximilian sunflower, Helianthus maximiliani, was collected in Kansas in 2007.*

**Description:** One of the oldest, largest and most diverse collections of preserved plants in the Great Plains region

**Website:** [k-state.edu/herbarium](http://k-state.edu/herbarium)

**Specialties:** Great Plains plants; weeds and introduced species

**Year founded:** 1877

**Size:** More than 180,000 specimens

**Curator:** Carolyn Ferguson, professor of biology



*This bindweed is one of the Herbarium's early historical specimens and was collected in 1851 in Texas.*

**O**n the top floor of Bushnell Hall, the Herbarium's rows of cabinets are filled with preserved plants dating from the late 1800s to the present. Samples such as colorful sunflowers are arranged for study and stored on special paper. Other specimens show the intricate white flowers and leafy green stems of different phlox species.

Some cabinet shelves contain the first-known collections from Kansas of certain plant species, from mosses to prairie grasses and colorful wildflowers.

“Our emphasis is the Great Plains, but we have specimens from around the world for researchers to study,” said Carolyn Ferguson, curator of the Herbarium. “When we document plant diversity, it spawns research, curiosity and investigation. If we don't explore this diversity, we run the risk of losing it.”

The collection supports a variety of research on plant diversity, including taxonomic research that describes and classifies plants as well as floristic research that documents what plants occur in a particular region.

Ferguson and her research group use the collection to study morphological and genetic diversity in phlox and other groups. The Herbarium's curating team is collaborating with the nearby Konza Prairie Biological Station, home to one of the world's few remaining tallgrass prairies, to improve documentation of plants that grow there.

The Herbarium helps K-State Research and Extension county agents identify plants, particularly new introductions and potential weeds. National Science Foundation funding has helped add specimens to the Herbarium and supported a digital database to make the collection even more accessible.

“Researchers from around the world use the Herbarium,” Ferguson said. “The collection is a foundational research resource and is widely known and used in the plant community.”



*Carolyn Ferguson*

## Fungal Genetics Stock Center



**Description:** A resource that preserves strains of fungi important in genetics research

**Website:** fgsc.net

**Specialties:** Fungal strains such as *Neurospora*, *Aspergillus*, *Magnaporthe*, *Cryptococcus* and *Candida*

**Year founded:** 1960; moved to Kansas State University in 2014

**Size:** More than 25,000 different strains of fungus that are stored in more than 150,000 individual specimens

**Curator:** Kevin McCluskey, research professor of plant pathology

These small bags contain ampoules of living freeze-dried fungal spores preserved from the 1940s through the 2000s.

*Neurospora crassa* strain 102 carries a single mutation that gives it this frosty appearance.

The key to improved medicine, better biofuel or tastier food may be something microscopic: fungus.

The Fungal Genetics Stock Center is a collection of fungi that have been studied genetically, from the model organism *Neurospora* to the valuable *Trichoderma* that came from World War II cotton tents and may help develop better biofuel.

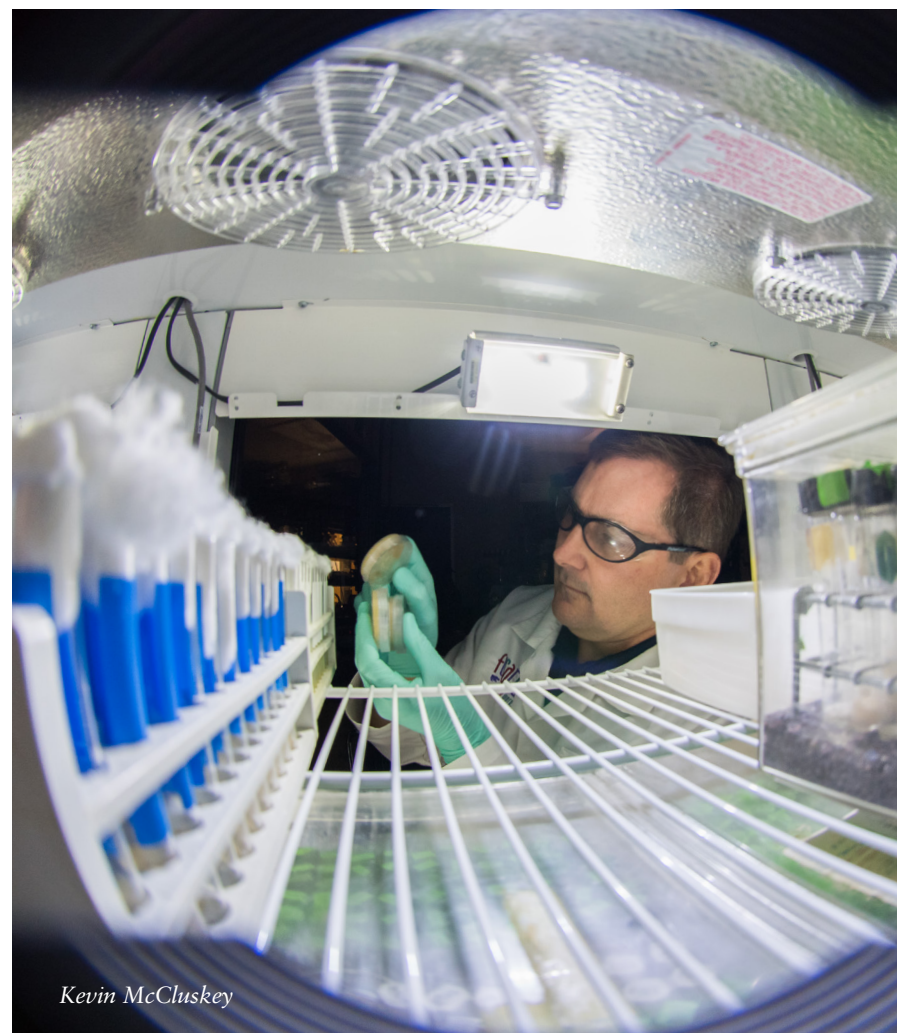
“Fungi are essential to make everyday life interesting and diverse,” said Kevin McCluskey, curator. “We create, maintain and provide thousands of fungal samples to researchers across the world. This collection holds the potential for new discoveries.”

By studying fungi and their genetics, researchers can advance agriculture or improve human health. Although some fungi can be plant or animal pathogens, most are harmless. Many fungi are used in the production of chemicals and drugs or can be used to produce enzymes for food and fiber processing.

The center preserves thousands of different fungi, including 23,000 *Neurospora* strains and 2,000 *Aspergillus* strains. Each strain in the collection has a different genetic makeup, and every strain is stored in two different formats in refrigerators and freezers.

The center provides fungal samples to more than 5,000 researcher clients and has been largely supported by the National Science Foundation and the National Institutes of Health. It is currently collaborating with the U.S. Department of Energy’s Joint BioEnergy Institute to study *Neurospora* and how it can be used for bioenergy and biofuel. McCluskey also is the principal investigator on an NSF grant to lead the U.S. Culture Collection Network.

“We make each research dollar go further,” McCluskey said. “Without collections like the Fungal Genetics Stock Center, researchers would have to start at square one. Our collection enables scientists to try research that they normally wouldn’t try because it would be much too expensive.”



Kevin McCluskey

## Wheat Genetics Resource Center

**Description:** A wheat gene bank and world leader in wheat genetic research and development

**Website:** k-state.edu/wgrc

**Specialties:** Wild wheat, hybrid wheat, mapping populations of wheat

**Year founded:** 1979

**Size:** 16,450 wheat genetic stocks

**Curators:** Bikram Gill, university distinguished professor of plant pathology, and John Raupp, senior scientist



*The seeds of many bread wheats, such as this Kansas State University-developed wheat variety Zenda, contain genes mined from wild wheats maintained in the Wheat Genetics Resource Center's gene bank.*



*A shock of bread wheat*

**T**he next time you enjoy a loaf of bread or a bowl of cereal, you can thank the Wheat Genetics Resource Center.

That's because the wheat in these foods has genetic connections with the center's wheat stock.

“Our collection is a gold mine for all the crop traits that can improve the wheat varieties used to make bread,” said Bikram Gill, center director. “There is no collection quite like ours, which contains wild species and genetic stocks used for research and crop improvement. The key to improving wheat yields is genetic diversity.”

The center — housed in the Kansas Wheat Innovation Center on the north end of the Manhattan campus — develops and maintains thousands of wheat genetic stocks. This includes 3,900 wild wheat strains, 3,650 genetic stocks and 8,900 mapping populations. The center shares the stocks with scientists developing wheat varieties with disease resistance, insect resistance, high protein and other traits. The stocks have been used in breeding programs in 39 states in the U.S. and 45 countries.

The collection has attracted nearly \$30 million in funding since its inception, thanks to collaborations with the U.S. Department of Agriculture, the National Science Foundation and companies such as Bayer CropScience, Syngenta and DuPont Pioneer. The center works closely with Jesse Poland, director of the university's Feed the Future Innovation Lab for Applied Wheat Genomics.

Wheat center researchers played a key role in mapping the wheat genome and provided all the wheat stocks used for the project. The researchers continue studying goat grass — one of the center's most important wild wheat species — to find genes that can resist pests, cold and heat.

“This is an active and growing collection, and it's going to become even more important over time as we look to feeding a growing population,” said John Raupp, curator of the center. “It's a work in progress.”



*John Raupp and Bikram Gill*



## Marianna Kistler Beach Museum of Art

**Description:** The John Stuart Curry collection is the largest collection of his art in the Midwest. The Gordon Parks collection includes photographs donated to the university by Parks.

**Website:** [beach.k-state.edu/explore/collection](http://beach.k-state.edu/explore/collection)

**Specialties:** The museum focuses on Kansas and regional art.

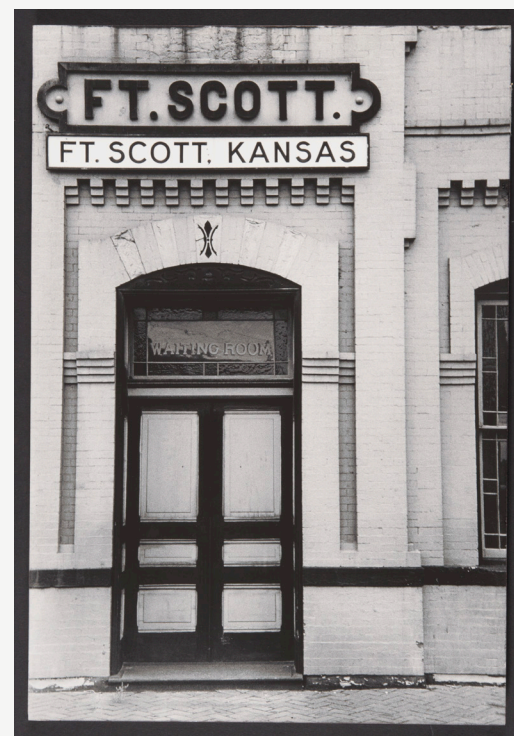
**Year founded:** The university acquired its first Curry painting in 1935. Gordon Parks donated his works to the university in 1973.

**Size:** More than 900 pieces in the Curry collection; 128 photos in the Parks collection

**Curators:** Elizabeth Seaton, curator; Sarah Price, registrar/collections manager; and Aileen June Wang, curator



*John Stuart Curry painted "Our Good Earth ... Keep It Ours" in 1942 for a war bonds poster during World War II.*



*Gordon Parks took this photo, "Frisco Railway Station," in 1949 when he returned to Fort Scott, Kansas.*



*Elizabeth Seaton, Aileen June Wang and Sarah Price*

**A**t the Beach Museum of Art, collections of two Kansas-born artists — John Stuart Curry and Gordon Parks — celebrate art for everyone.

Through his Kansas portrayals, Curry became one of America's most prominent Regionalist painters during the 1920s and 1930s. In 1935, K-State was one of the first institutions in Kansas to acquire one of Curry's paintings. The university's Curry collection became one of the nation's largest with a 2002 gift of sketches and paintings from the estate of his second wife, Kathleen Curry. It serves as a significant study collection for students and researchers.

Part of the Curry collection was featured in a 2015 Beach Museum exhibition, "Art for Every Home: Associated American Artists," that later traveled to New York University's Grey Art Gallery and Syracuse University Art Galleries.

"Place was extremely important to Curry, and Kansas became important because of his rural upbringing," Elizabeth Seaton, curator, said. "His background and his ambition to make art accessible to as many Americans as possible make him a fitting artist to have represented at a regional art museum at a land-grant institution."

Parks' roots in segregated Fort Scott, Kansas, played an important role in shaping his career. He became the first African-American staff photographer and writer at *Life* magazine in 1948 and used his art to spark social justice awareness. He donated 128 photographs to the university in 1973.

"What is unique about this collection is that it contains photographs personally selected by Gordon Parks," said Aileen June Wang, co-curator of the Parks collection. "We have a snapshot of his thinking at that time in the early 1970s."

The original Parks collection became an exhibition that traveled to U.S. cities and Kansas communities. The museum recently partnered with the Gordon Parks Foundation to reprint the collection and is planning a future exhibition.

"It was important to Gordon Parks to make these photographs available to communities in Kansas that may not have had access to art," said Sarah Price, co-curator of the Parks collection. "We want to continue to make these photographs available because that was important to him and it is important to the museum."

## Richard L. D. and Marjorie J. Morse Department of Special Collections



*A variety of items from the Cookery Collection and the Consumer Movement Archives*

At Hale Library's special collections, researchers can understand plague water's medicinal properties in the 1600s or ancient cooking practices as they were known in the 1400s. Visitors can consult correspondence from U.S. Sen. Edward M. Kennedy or delve into lemon law protections.

"Our collections represent K-State history and its strengths as a land-grant university," said Keli Rylance, department head. "We have more than 1 million historical items that help scholars across disciplines conduct original research and we are expanding our digital presence."

Two of these special collections — the Cookery Collection and the Consumer Movement Archives — show what we can learn from the past and present.

The Cookery Collection contains thousands of cookbooks, printed materials and manuscripts in multiple languages from 1487 to the present. Historians, dieticians and culinary experts use it to study food in popular culture, over centuries and across continents. The archaeological museum of Pas-de-Calais in northern France recently used digitized materials in an exhibit on salt, and Kansas State University English professors have studied women's writing through the collection's manuscript cookbooks.

"The study of home economics and human ecology has played a role at K-State since the university's beginning," said Roger Adams, Cookery Collection curator. "The Cookery Collection is a constantly growing collection through donations and purchases."

The Consumer Movement Archives includes letters, television footage and photographs related to consumer rights and safety. The collection maintains records for the Consumer Federation of America, the National Consumer Law Center and the American Council on Consumer Interest. The Richard L. D. Morse papers are the collection's flagship. Morse, former chair of the university's department of family economics, defined the phrases Annual Percentage Rate, or APR, and Periodic Percentage Rate, or PPR.

"These materials are crucial to understanding the history of consumer education and its evolution to what we know today," said Jane Schillie, Consumer Movement Archives curator. "Our documentation of the consumer movement provides resources for a more informed population."

**Description:** The Cookery Collection is the most comprehensive collection of cookbooks and related volumes in the U.S. The Consumer Movement Archives extensively documents the U.S. consumer movement.

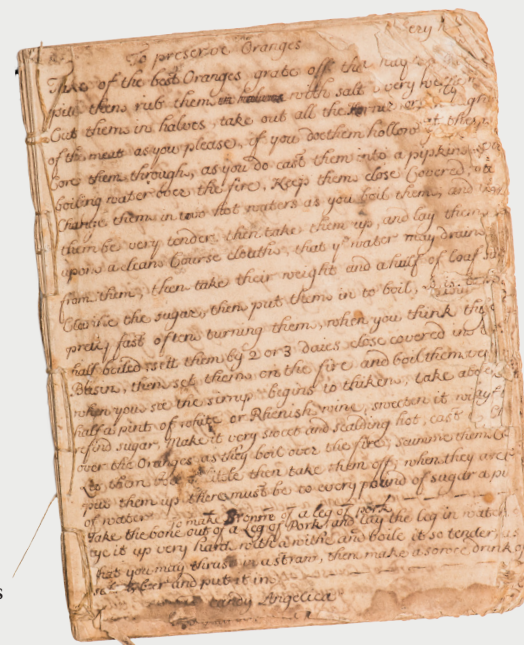
**Website:** [lib.k-state.edu/special-collections](http://lib.k-state.edu/special-collections)

**Specialties:** The Cookery Collection specializes in international cuisine, juvenile cookery and celebrity cookbooks. The Consumer Movement Archives concentrates on consumer history, protection, rights, health and safety.

**Year founded:** Cookery Collection in 1943; Consumer Movement Archives in 1987

**Size:** More than 38,000 volumes in the Cookery Collection; more than 30 discrete collections in the Consumer Movement Archives

**Curators:** Keli Rylance, department head; Roger Adams, rare books librarian; and Jane Schillie, special collections librarian



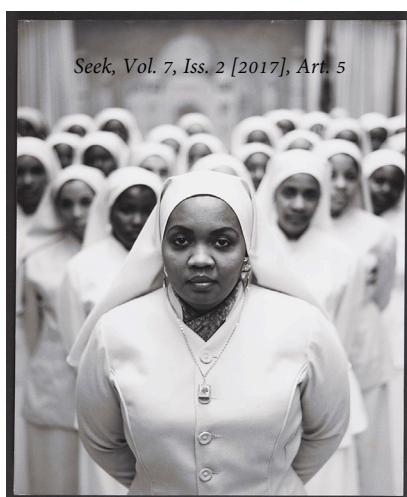
*This English manuscript cookbook from the mid-1600s contains culinary recipes and household remedies, including instructions for preserving oranges.*



*Jane Schillie, Roger Adams and Keli Rylance*



The Consumer Movement Archives safeguards the history of consumer advocacy through a wide array of personal and organizational records.



This 1962 Gordon Parks photo, "Ethel Sharrieff," portrays the daughter of Nation of Islam leader Elijah Muhammad. Parks donated this photo and 127 others to the university in 1973.



The Historic Costume and Textile Museum maintains a collection of western wear, including this circa 1945 men's western shirt made by California Ranchwear.



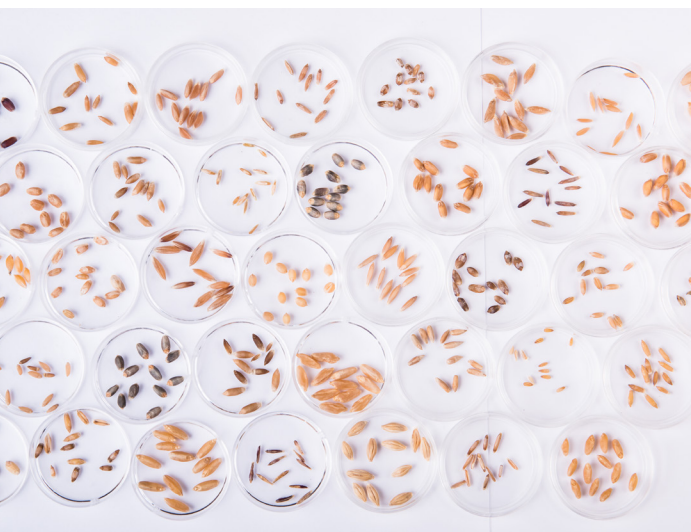
One of the specialties of the K-State Museum of Entomological and Prairie Arthropod Research is Lepidoptera, which are butterflies and moths. The butterflies, moths and damselflies in this photo are native to Kansas.



Neurospora crassa strain 1384 was discovered in 1967 and is one of 23,000 Neurospora strains preserved at the Fungal Genetics Stock Center.



This 1930s British army notebook is part of the Cookery Collection and was used to record various household recipes.



These wheat seeds are a sampling of some of the 4,000 ancient and wild wheats housed in the gene bank at the Wheat Genetics Resource Center.



The Historic Costume and Textile Museum includes this Ming dynasty (1368-1644) roundel, which was worn by Chinese aristocracy and indicated their individual rank or status at court.



This specimen of silver maple, *Acer saccharinum*, was collected in 1936 by former Herbarium curator Frank C. Gates. Such specimens were the foundation of Gates' many important publications on Kansas plants.