



Unit 10) Heroes in Agriculture

That was Then and This is Now...

THEN

"Fired with the ambition to become a wheat farmer, I came to Meade County, Kansas, in 1929, at the enthusiastic age of twenty-one.

Life had run in pleasant channels in eastern Nebraska, where I was born. While my parents were not wealthy, they were prosperous enough so that I might have taken up any business or profession that appealed to me. As a matter of fact, from the time I was in knee pants my one and only ambition had been to be a farmer. Nature called to me, and I wanted to work close to her. Where one may see the glorious sun rise and set; where green, growing vegetation thrives; where birds warble and chirp merrily through life; where the air is clean, pure, and fresh – that was where I wanted to live and work... I put in my first wheat crop that fall. Throughout the winter and spring, snow and rain fell in season, and the outlook was splendid. The crop promised to be a fine one, and I saw myself embarked on a career of my fondest preference.

I believe any man must see beauty in mile upon mile of level land where the wheat, waist high, sways to the slightest breeze and is turning a golden yellow under a flaming July sun. To me, it was breath-taking, the most beautiful scene in all the world; and hundreds of acres of that wheat was mine, representing the reward of labor, ambition, and enterprise."¹

Lawrence Svobida, 1938

NOW

"My great-grandfather settled in Washington County, Kansas, with the intent of raising a family in a land that I am sure he saw as heavenly. Wonderful productive Kansas soil and weather suitable for plant growth had to be rewarding and exciting. The love of the land was one of substance, providing for the family and community.

Four generations later, farming involves a very different scope. American farmers today represent only three percent of the population, but are charged with providing food for not only our families, but also the other 97 percent of the nation, and a good share of the world. With a growing world population, we must produce an exponentially greater amount of food given an ever-decreasing amount of viable productive cropland.

My great-grandfather worked with horses, crude implements, hand tools, and determination, while today we utilize technologically advanced machines that rival spaceships, computers, precision agriculture concepts, a host of input efficiencies and biology never imagined possible, and determination.

The lure of the Kansas farming life though involves many of the same rewards that I imagine were felt a century and a half ago. Watching a crop sprout, grow, and mature. Seeing the plants respond to a warm summer rain, enjoying the seasons and the differing tasks that come with them, simply loving the land."

Trent Winter, November 2011

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KANSAS HEROES

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TEACHER'S RESOURCES

Leaders in agriculture are all around us, serving in a wide array of career fields in communities of all sizes. There are more than 250 career fields available in agriculture, ranging from production agriculture to atomic physics, bioengineering, communications, robotics, and space satellite technologies. In Kansas, nearly one in five workers are employed in agriculture and agriculture-related jobs.

In the entire United States, more than one in seven people work in the agriculture industry. Many of those choosing to work in the agriculture industry do not have a farm background or prior work experience in production agriculture.



Farm Family

Credit: USDA NRCS

PEOPLE IN AGRICULTURE



Wheat Promotion

Credit: Kansas Wheat Commission



Technical Assistance

Credit: USDA NRCS-Kansas



Wheat Research

Credit: K-State Research & Extension



Wheat Research

Credit: K-State Research & Extension



Bagel Research

Credit: Wheat Marketing Center



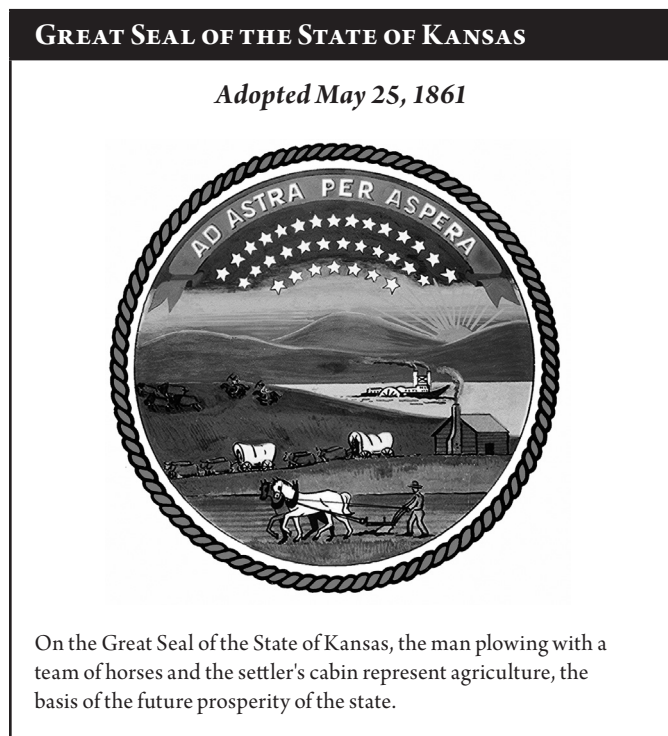
Baking Steamed Rolls

Credit: Julia Debes,
U.S. Wheat Associates

MAKING A DIFFERENCE: LEADERS IN AGRICULTURE

Countless individuals have shaped and altered the course of Kansas agriculture. While some of these people are famous, the contributions of others are less well-known, especially outside the agriculture industry. They are not all Kansas-born, but all these people have changed life for the better in Kansas. Their contributions to food, feed, fiber, art, literature, and other career fields continue to positively impact our lives.

Explore the following short profiles of leaders and how they have impacted agriculture, both in Kansas and outside the borders of our state. These leaders in agriculture represent thousands of contributions made by Kansans in the past, present, and future.



MAKING A DIFFERENCE: VINCENT AMANOR-BOADU, EDUCATOR (JANUARY 22, 1961 –)

Educating and Inspiring Rural Rejuvenation

Vincent Amanor-Boadu is an associate professor of agricultural economics at Kansas State University. He teaches using his own blend of business principles, motivational techniques, and perspective. Outside the classroom, his multi-layered understanding of the world makes him a highly sought-after lecturer and consultant. Amanor-Boadu's clients vary from a small group of rural leaders fine-tuning their mission statement to a chief executive officer and board of directors of a major corporation requiring help identifying and resolving problems.

Born in Ghana, on the west coast of Africa, Amanor-Boadu was educated in Ghana and Nigeria. "Dr. V," as he is affectionately known, completed his graduate studies in Canada and subsequently landed in the center of the United States. He said, "My influences included such Western philosophers as Aristotle and Jean-Paul Sartre; the poetry of Wordsworth, Keats, and Byron; the speeches of Abraham Lincoln; plays of William Shakespeare and Wole Soyinka; and the music of Mozart, Bach, and Bob Marley." But he recognized the potential,



Dr. Vincent Amanor-Boadu

Credit: K-State Research & Extension

as well as the complexity and artistry, of agriculture and was drawn to Kansas through a friendship with Barry Flinchbaugh, professor emeritus of agricultural economics at Kansas State University.

When he first came to Kansas, Amanor-Boadu saw economic and global leadership potential in the state and its people. "I noted in a number of my early speeches across the state that we have an example of having the canvas, the paint, and the brushes, and what we are waiting for is the maestro to paint us a masterpiece," he said. "That is how I feel about Kansas. We all need to pick up our brushes and paint a masterpiece, a piece that can be the envy of the world."

"I would like to see rural Kansas unleash its entrepreneurial and creative power to transform our small towns and rural communities into powerful engines of economic growth and social rejuvenation," he said.

Amanor-Boadu teaches, conducts research, and helps Kansas communities discover approaches to economic growth and development. He serves on numerous committees around the university and state, and he sits on a number of corporate boards. As an associate professor in the Department of Agricultural Economics at Kansas State University, he teaches upper-level classes in food manufacturing, distribution, and retailing, which he says allows students to connect the food industry to agriculture and other rural resources. He recognizes that his work is highly collaborative and points to others who assist him, including specialists in agricultural engineering, bioenergy, rural development, creativity, and entrepreneurship.

With his skill-set in high demand, why does Amanor-Boadu spend his time trying to motivate young adults in a classroom?

"I am in academia because I want to teach," he said. "I take a lot of pride in our students' success. When the young woman or man sends me an e-mail or walks into my office to say, 'Dr. V, I got hired by so and so,' that makes me feel very proud that we are producing citizens who are worthy and capable of securing and growing this civilization."

He said the most rewarding part of his work is seeing students prosper and having them come and visit after they have completed coursework to provide updates on their lives and careers. Amanor-Boadu said his students become his family, sharing photos of their new babies and calling to wish him a happy birthday.

Amanor-Boadu knows teachers are vital to helping students understand the role that agriculture plays in their lives. "If people eat, they are involved in agriculture," he said. "Therefore, we need to help teachers find the language and the tools to engage students to be mindful of what and how they eat. Teachers can make the difference."

MAKING A DIFFERENCE:

NORMAN BORLAUG, AGRONOMIST, FATHER OF THE "GREEN REVOLUTION" (MARCH 25, 1914 – SEPT. 12, 2009)

Saving Lives with Agricultural Research

Norman Borlaug is widely recognized for saving the lives of more than one billion people who would have died of starvation without his lifetime of work to increase cereal grain production. He was a plant geneticist and humanitarian who won the Nobel Peace Prize in 1970 for his contributions to the world food supply.

Borlaug was born in Cresco, Iowa, in 1914, the great-grandson of Norwegian immigrants. His interests in forestry and plant pathology and genetics led him to research high-yielding, drought-

resistant dwarf wheat. He developed and shared modern agricultural production techniques with farmers in Mexico, fighting the assumption that taller plants made ideal crops. He successfully proved his hypothesis that shorter-stalked wheat would expand less energy on inedible stalk sections, giving more growth to the valuable grain in the head. In addition, he discovered a sturdier plant could support heavy kernels without bending over at maturity and complicating the harvesting. Borlaug made the case that developing nations should focus on the production of high-yielding cereal crops, inorganic fertilizers, and irrigation to feed their growing populations. He took his theories and his wheat seed to Pakistan and India in the 1960s. With his help, those two countries nearly doubled their wheat yields between 1965 and 1970.

Borlaug advocated increasing crop yields to curb deforestation by decreasing the need for new farmland, an idea often called the Borlaug Hypothesis. He believed that high-yield techniques saved ecosystems from destruction. He also argued that organic, low-yield farming was a luxury, stating, "Some of the environmental lobbyists of the Western nations are the salt of the earth, but many of them are elitists. They've never experienced the physical sensation of hunger ... If they lived just one month amid the misery of the developing world ... they'd be crying out for tractors and fertilizer and irrigation canals."²

Borlaug continued his food production efforts within Asia and Africa, fighting poor economies, bad infrastructure, and huge populations with knowledge and hard work.

In 2006, when he was 92 years old, the United States Senate passed the Congressional Tribute to Dr. Norman E. Borlaug. President George H.W. Bush signed the bill into law and awarded him America's highest civilian award, the Congressional Gold Medal.

After his death in 2009, Borlaug's children said that they hoped their father's example would give others a model for making a difference.



Dr. Norman Borlaug

Credit: AgriLife Communications, TAMU



Dr. Norman Borlaug in Africa

Credit: AgriLife Communications, TAMU

MAKING A DIFFERENCE:

DAN AND FRANK CARNEY, ENTREPRENEURS AND FOUNDERS OF PIZZA HUT (1931 – ; APRIL 26, 1938 –)

Making "Pizza" a Well-known Word

On May 31, 1958, the first Pizza Hut restaurant opened in Wichita, Kansas. To make it happen, Dan and Frank Carney, two brothers – one still a teenager – made a gamble, which paid off. Their entrepreneurial courage helped to make pizza a household word and mealtime favorite for people around the world.

In a 2002 interview on the KTWU television show *Sunflower Journeys*, Dan said that his father died when he was a junior in high



Original Pizza Hut Building

Credit: Special Collections and University Archives, Wichita State University Libraries

school. His father, who had worked for a large corporation before starting the family-owned grocery store, shared some sage advice with Dan: "If you have a choice, be in business for yourself, because you get the satisfaction that you know if you fail or you win, it's yours and you don't have somebody over you who's not going to give you good opportunities to succeed." ³

In 1957, while finishing his graduate studies in business at Wichita University (now Wichita State University), Dan talked his brother Frank, a freshman at the same college, into partnering with him in a new venture. The brothers first went to a bank for a loan to start the business. "What is pizza?" the banker asked. "Why should Italian food be produced in Kansas?" With a loan of \$600 from their mother, they remodeled the tavern on Bluff and Kellogg streets next door to the family market and learned to make pizza. ⁴ The *Saturday Evening Post*, a popular common interest magazine, had published an article in November 1957 that gave step-by-step instructions on how to produce a pizza pie, a food common in Italian sections of larger, northeastern American cities like New York and Boston. Using that information, the Carney brothers worked to develop a recipe with a neighbor of their sister who was stationed at nearby McConnell Air Force Base. Their "pizza chef" had worked in a pizzeria in Indiana and needed some extra money. They improvised and cut corners in the early production: a large baby's bathtub was used to mix the dough in, which would rise in a garbage can lid. The trio produced small, ten-inch, thin crust pizzas for 95 cents and large, 13-inch, thin crust pizzas for \$1.50, plus toppings.

The first Pizza Hut was such a success that after only five months, the Carneys opened a second Pizza Hut carryout restaurant on another side of Wichita. In a year and a half, they had opened five restaurants. They continued to expand their business, using the franchise system, in which the Carneys would grant a license to market Pizza Hut products to another person in a different region or area –

BOOK IT!

Since 1985, Pizza Hut restaurants have been sponsoring BOOK IT!, a program designed to encourage reading in students. Running from October to March, the BOOK IT! program reaches more than 10 million students every year.

Teachers who have enrolled in the program set reading goals for each student. When those individual goals are met, students are rewarded with certificates for personal pan pizzas and other prizes.

BOOK IT! materials are free to schools.



Credit: BOOK IT! and BOOK IT! Logo are the exclusive property of Pizza Hut, Inc. and are used with permission.

using the same logo, menu, food items (including recipe and ingredients) and type of building – in exchange for an annual fee and a percentage of the gross sales of the new restaurant. At the peak of the Pizza Hut expansion, Frank and Dan were opening a new restaurant every day.

The Carney brothers went public with Pizza Hut in 1969, selling more than 400,000 shares of stock. In 1977, they sold their rights to PepsiCo Company. In 2008, Pizza Hut celebrated a half a century of business with nearly 13,000 restaurants in more than 90 countries.

Ironically, Dan never did finish his master's degree in business.

Don Hackett, associate professor in the Wichita State University Barton School of Business, said that Dan wanted to write his thesis on franchising. Dan's major professor at the time said that really was not a viable topic and advised him to write about collective bargaining. Dan went back to making pizza.

Several years later, Dan did serve on the advisory council that helped found Wichita State University's Center for Entrepreneurship, one of the first of its kind in the country. The program caters to students who are looking for an alternative to the traditional business degree. In 2007, it was ranked as the 11th best program in the country for undergraduate students seeking a degree in entrepreneurship. ⁵ "We hope that for our entrepreneurship majors, we are able to be more responsive than maybe what happened 30 years ago or so," said Hackett. "There has been a wonderful culture of entrepreneurship that has developed here, which excites a lot of people and certainly excites a lot of our students." ⁶

MAKING A DIFFERENCE:

GEORGE WASHINGTON CARVER, SCIENTIST, INVENTOR, AND EDUCATOR (CIRCA 1864 – JANUARY 5, 1943)

Helping the World Through Research and Education

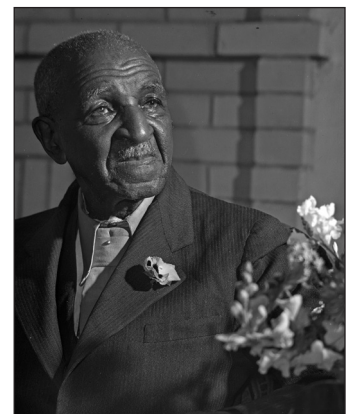
Although born the son of slaves, George Washington Carver became an internationally recognized researcher, inventor, and educator. In fact, President Franklin D. Roosevelt called George Washington Carver one of the world's most significant scientists. ⁷

Born amidst the chaos of the Civil War, Carver lost most of his family at a very early age. After slavery was abolished, Moses and Susan Carver (his former owners) raised the young boy and taught him to read and write. The Carvers also encouraged him to continue his education. In 1943, President Roosevelt designated the farm near Diamond, Missouri, where Carver was born as the George Washington Carver National Monument, the first national monument to an African-American in the United States.

When Carver was 13 years old, he moved to Fort Scott, Kansas, with a foster family. Later, in his 20s, Carver moved to Minneapolis where he graduated from Minneapolis High School. Following graduation, Carver lived in several Kansas towns, including

Dr. George Washington Carver

Source: Library of Congress; Arthur Rothstein, photographer



Paola, Olathe, and Spring Hill. He also farmed in western Ness County near the town of Beeler before he left Kansas to pursue a college degree.

Carver initially pursued art in college. In fact, he was an accomplished artist with two paintings selected for exhibition at the 1893 Chicago World's Fair, one of which earned an honorable mention award. Ironically, concerned about his ability to earn a living as a black artist, Carver had switched colleges in 1891 to pursue a science career at Iowa Agricultural College, now known as Iowa State University. Carver was the first black student at Iowa Agricultural College. After earning both a bachelor's and master's degree in science, Carver became the first black faculty member at the college, where he served before moving to Alabama.

In 1896, Carver was recruited by President Booker T. Washington, president of the Tuskegee Normal and Industrial Institute (now Tuskegee University), to head the school's agricultural department. Carver also administered the university's agricultural



Movable School, 1938

Credit: Tuskegee Institute National Historic Site

experiment stations and worked to improve the lives of poor Southern farmers and their families. He designed and operated a movable school that took university faculty out into the rural communities to share their knowledge and teach people new farming techniques. A forerunner of an agricultural extension program for Alabama, the first movable school was horse-drawn and built by Carver's students at the Tuskegee Institute.

Carver's research and educational efforts to change farming practices and improve the diets of poor farm families helped revitalize the economy of the South, which had been devastated by declining soil fertility in fields dominated by continuous cotton production as well as the destruction of cotton crops by insects like the cotton boll weevil. Carver promoted crop rotation and alternative crops to cotton, including legumes like peanuts, soybeans, and sweet potatoes that would improve soil fertility. From 1915 to 1923, Carver and his students concentrated their research and experimentation efforts on new uses of the alternative crops that made the crops more profitable for the farmers to include in their crop rotations. First published in 1916, one of Carver's most popular practical bulletins, *How to Grow the Peanut and 105 Ways of Preparing It for Human Consumption*, was reprinted many times.



Laboratory at Tuskegee Institute, 1902

Source: Library of Congress; Frances Benjamin Johnston, photographer

Carver spent almost 50 years teaching and pursuing scientific research at Tuskegee Institute. Before his death in 1943, Carver created hundreds of products from peanuts, sweet potatoes, pecans, soybeans, and other plants. However, he received only three patents for his work, preferring to share his research results with the public rather than profit from his work. In fact, the epitaph on George Washington Carver's grave reads, "He could have added fortune to fame, but caring for neither, he found happiness and honor in being helpful to the world."

Today, the Biotechnology Industry Organization presents an annual award in his name, the George Washington Carver Award for Innovation in Industrial Biotechnology, recognizing him as one of the founding fathers of modern industrial biotechnology. According to the organization, "Following Carver's legacy, industrial biotechnology companies today are developing new methods to use renewable agricultural resources to manufacture fuels, plastics, chemicals, pharmaceuticals, and food ingredients."⁸

MAKING A DIFFERENCE:

PATRICIA CLARK, RURAL LEADER (OCTOBER 10, 1952 –)

Helping Rural Communities Thrive

Kansas has a strong agriculture and rural tradition that contributes greatly to the economy of the state. Patty Clark's mission is to ensure that people in Kansas' rural communities continue to have opportunities that will enhance the quality of their lives. Since 2009, Clark has served as state director for U.S. Department of Agriculture Rural Development in Kansas.



Patricia Clark

Courtesy: Patty Clark

Clark was raised in a north-central Illinois town and her appreciation for agriculture came early. Her father, a family physician, practiced medicine for 30 years serving the surrounding rural communities. She remembers him making house calls to area farmers where he was sometimes paid with fresh produce and meat. She loved her visits to the country and an interest in agriculture ensued. One of Clark's teachers knew of her leanings and helped set up a campus visit to Kansas State University in Manhattan during her senior year in high school. Clark said, "I was entranced by the Flint Hills and felt immediately at home because of the welcoming environment. By the end of my first semester of my freshman year, I knew I would forever call Kansas my home."

Clark finished at Kansas State University in 1974 as one of five female graduates from the Department of Animal Sciences and Industry. The demographics of agriculture have changed. By 2011, 52 percent of the undergraduate students enrolled in the College of Agriculture at Kansas State University were female.⁹

Clark draws on real world experience in production agriculture, gained by years of raising cattle and crops with her family. Her appreciation for the work of farmers and ranchers, combined with an ability to inspire and lead people, brought opportunities of work with the Kansas Department of Commerce as director of agriculture marketing and with Kansas Farm Bureau, helping direct their public policy. In short, she not only relates with those on the farm, but also helps rural communities visualize their goals.



Patricia Clark
Courtesy: Patty Clark

Currently, Clark works with communities to help sustain the economic health of rural areas in Kansas. According to the U.S. Department of Agriculture's Economic Research Service, economic recession has left rural Kansas with high levels of unemployment and rising poverty rates as the population grows at less than half the rate of metropolitan areas.¹⁰

Clark said that to thrive, rural Kansas communities must enhance their local leadership capacity through partnerships. By working together, she believes, people can address issues and then make progress toward eliminating challenges. Her agency offers loans, grants, and financial guarantees to support people and make them more aware of economic trends and opportunities. The intent is that if a rural community's leaders can understand the challenges their area faces and recognize the available resources, that community will be more able to retain young people and foster businesses that will keep it strong.

"Despite the perception shared by 98 percent of the people that farming and ranching is simple, agriculture is one of the most complex and fascinating industries in the world," said Clark. "It takes a blend of science, business, common sense, and ingenuity to survive. The issues facing our rural citizens can be divisive, can be polarizing, and can be complex. It will take inclusive, courageous, and insightful leadership to address those issues."

Clark said she is aware of the responsibility, but excited by the promised outcome of the work she does with community leaders: "It is my privilege to help sustain a quality of life I deeply value and to work within rural development."

MAKING A DIFFERENCE:

HERBERT W. CLUTTER,

FARMER AND INDUSTRY GROUP LEADER (MAY 24, 1911 – NOVEMBER 14, 1959)

Dedicating His Life to Agriculture

Herb Clutter was born in 1911 in Ingalls, Kansas. He graduated from Kansas State University in 1933 and immediately took a job as assistant county extension agriculture agent in Montgomery County. In 1934, he was hired as the county extension agriculture agent in Finney County, based out of Garden City.

Herbert W. Clutter

Credit: Finney County Historical Society



COOPERATIVE EXTENSION SYSTEM

By law, the U.S. Department of Agriculture's Cooperative Extension System is a nationwide educational network based out of state offices located at the land grant university in each state or territory. In Kansas, K-State Research and Extension is affiliated with Kansas State University.

The role of county extension agents is to share useful, practical, and research-based information with people in their communities. An extension agriculture agent might help farmers select crop varieties, plant and harvest crops in research test plots, identify problems with livestock health, or even check animals in at the local county fair.

At the time of Clutter's extension employment, western Kansas was facing one of its most trying times. In the 1930s, a severe drought was causing dramatic soil erosion. The extremely dry, hot winds, a lack of rain, and farming practices of the time period caused valuable topsoil to be lost. Undaunted by the challenges production agriculture presented, Clutter retired in 1939 to start farming. He and his wife Bonnie purchased 880 acres of land southwest of Holcomb and leased an additional 3,000 acres. They called their crop and livestock operation River Valley Farm. Neighbors considered him a progressive farmer.¹¹

He and his family were active in many local organizations, including the local cooperative board, the Methodist church, the school, and the 4-H club. Clutter's leadership and commitment led him to serve on the boards of many state and national organizations. Clutter was the first president of the National Association of Wheat Growers in 1948. He encouraged Kansas wheat farmers to unite as a strong, unified voice, which led to the formation of the Kansas Association of Wheat Growers in 1952.¹² He fought for research and education in the industry, especially improved variety development.

In November 1959, Clutter, his wife, and their two teenage children were brutally murdered in their home near Holcomb. The tragedy shocked the nation. Writer Truman Capote documented the murders and subsequent trial in the book *In Cold Blood*. Because of the violent incident, some people overlook the contributions Clutter made to agriculture.

In 2009, the Kansas Wheat Growers Foundation established the Herb Clutter Memorial Scholarship for students pursuing careers in agriculture. Justin Gilpin, chief executive officer of Kansas Wheat, summed up Clutter's contributions when announcing the scholarship designation: "Herb's story and the impact he had on the wheat industry serves as an excellent example to young adults as they begin their college careers. His vision, hard work, and sense of community are all qualities tomorrow's leaders will need to possess."¹³

MAKING A DIFFERENCE:

JOHN DEERE, INVENTOR

(FEBRUARY 7, 1804 – MAY 17, 1886)

Inventor Extraordinaire

In 1836, a young blacksmith from Vermont set up shop in a small town in Illinois. His first customers told of their frustrations trying to run a plow through the heavy, clay soil of the Midwest. Soil would stick to the bottom of the plow and had to be removed by hand every few steps, making plowing a time-consuming task that exhausted

farmers and their animals. John Deere, the blacksmith, theorized that a highly polished surface could clean itself as it moved through a field. While visiting a sawmill, he noticed a broken saw blade. From that humble beginning, John Deere fashioned the first successful steel plow. In doing so, he is credited for opening up the west to agricultural development and creating an American corporation that is the current leading manufacturer of agricultural machinery in the world.



John Deere Plows
Copyright: Deere & Company

Deere set to work with the wide acceptance of his plows, but he continued to improve the plow's design to set his product apart from the competition. By 1848, he moved his company to Moline, Illinois, and took advantage of the water power and transportation provided by the Mississippi River. Within a few years, production reached 1,600 plows per year, and Deere had steel, rolled to his specifications, shipped in from Pittsburgh, Pennsylvania, rather than buying the product from England.

Deere became a civic leader in Illinois as well as a business icon. He helped to bring a fire engine to Moline, co-founded a bank, and became a strong abolitionist during the Civil War. He is credited for constructing and repairing sidewalks and streets and replacing open drains with a sewer pipe to reduce disease.

Deere's business instincts and continuous desire to improve his product, combined with the growth of the United States and its agriculture, is reflected in the company's successes. Although John Deere – the man – died in 1886, the company grew. By the end of the 1800s, John Deere – the company – was a leading manufacturer of cultivators, harrows, planters, wagons, and buggies. The company weathered the ups and downs of the 1900s, and has been in continuous existence for nearly 175 years.

In 2008, Deere & Company was listed as 102nd in the Fortune 500 ranking of top businesses. Today, it is the world's leading manufacturer of farm equipment and leads the world in building forestry equipment and construction equipment.¹⁴ The corporation manufactures many products, including tractors, combine harvesters, balers, planters, all-terrain vehicles, and forestry equipment. The company also supplies lawn mowers and string trimmers, chainsaws, and snow equipment.

Currently, the business also supports the John Deere Foundation. The foundation's worldwide goal is to foster agricultural development that helps maintain agricultural production and economic growth in underdeveloped countries. Closer to home, in several communities in the United States, the foundation provides supplemental food to elementary school children through Backpack Programs. Through these programs, backpacks full of healthy, ready-to-eat or easy to prepare food are distributed every Friday afternoon to needy students so they have nutritious food to eat over the weekends.



JOHN DEERE

Copyright: Deere & Company

Deere & Company prides itself on being guided today, as it has from the beginning, by core values: quality, innovation, integrity, and commitment. The slogan, "Nothing Runs Like a Deere," is still used today, both in marketing and as a manufacturing goal.

MAKING A DIFFERENCE: TEMPLE GRANDIN, LIVESTOCK HANDLING EXPERT (AUGUST 29, 1947 –)

Seeing the World through Animals' Eyes

"Probably no person has had a greater effect over the past few decades on livestock handling in the U.S. or worldwide than (Temple) Grandin," writes Joe Roybal, *BEEF Magazine* editor.¹⁵

Temple Grandin is a professor of animal science at Colorado State University and an inventor of livestock handling equipment. Her designs include corral and chute systems for use on cattle ranches and loading ramps and alleys for feedlots. She has been an effective advocate for the humane slaughter of food animals and has worked with most major livestock companies to upgrade their livestock handling systems. In North America, almost one-half of all cattle are handled in a center-track restrainer system she designed for meat plants.¹⁶ More than one-third of the cattle and hogs in the United States are handled with equipment she has designed.¹⁷ Grandin was recognized by *TIME Magazine* as one of its 100 Most Influential People in the World in 2010.

What makes her story so noteworthy, and also what she says gives her more insight into an animal's perspective, is that Grandin is autistic. According to the Autism Society of America, Grandin's condition is a developmental disability that affects the normal functioning of the brain. In the 1950s when Grandin was diagnosed, being labeled autistic was a death sentence on achievement and productivity in life.

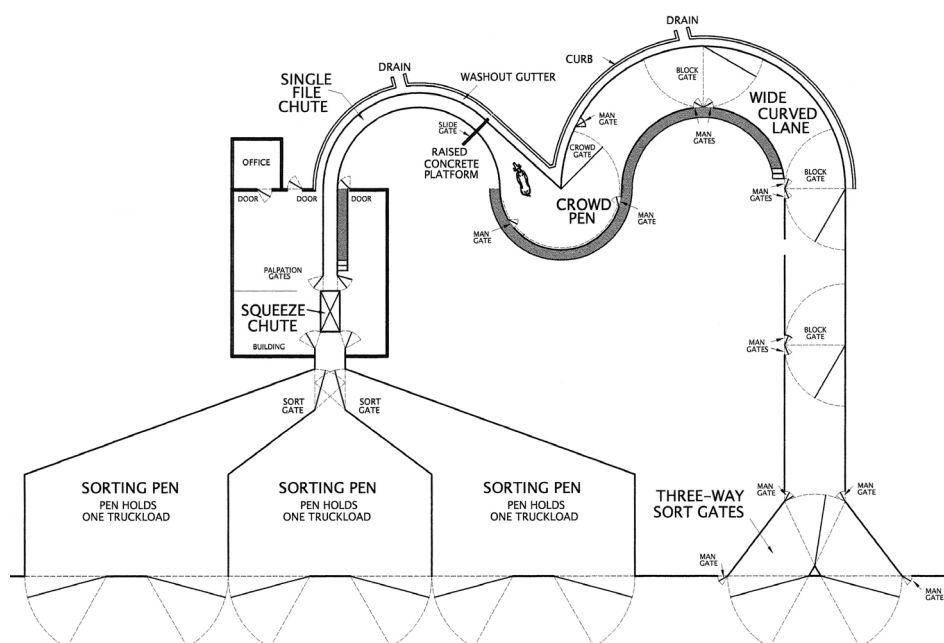
Grandin didn't speak until she was more than three years old. She hated to be hugged and didn't play with others or interact with anyone except with screaming or humming. Grandin's parents were told that she would never be able to function as a normal person and were encouraged to institutionalize her. Thanks to the patience and persistence of many key people, who Grandin said were "creative, unconventional types," and her drive to help animals, she simultaneously fought off and worked with her different autistic tendencies to lead a fruitful life. Grandin is considered one of the highest functioning people with autism.

Grandin's empathy for animals began on a visit to her aunt's ranch in New Mexico. Grandin could understand why the cattle became stressed while being handled. She recognized their fight-or-flight responses to stimuli – her own reactions were similar. As she grew up, Grandin continued to use her unique perspective to get down on the animals' level and understand their behavior.



Dr. Temple Grandin
Credit: K-State Research & Extension

CLASSIC FEEDLOT CORRAL LAYOUT



Courtesy: Grandin Livestock Handling Systems, Inc.

Early on, in her life and her career, the hardest battle was communicating. Grandin continues to find ways to advocate for people with autism and animals. She teaches courses on livestock behavior and facility design and consults with corporations and individual ranchers throughout the world. In the autistic community, Grandin is also a highly sought-after speaker; she is one of the few people who can tell parents, doctors, and teachers why autistic children and adults act the way they do from firsthand experience.

Grandin's corral and alley designs are both beautiful and meticulously detailed. Some of her unique designs are based on the principle that a curved chute system will help cattle flow through, rather than stop and require prodding. She can tell someone how to hang a gate to make cattle *want* to go through it. Her writings on the flight zone (the point at which an individual grazing animal becomes agitated and wants to move away) offer ways to reduce stress on cattle, sheep, and hogs. Many of her blueprints are available online.

Grandin has been featured on television news shows like *20/20*, *48 Hours*, *Larry King Live*, and on the British Broadcasting Channel (BBC). Her 1995 autobiography, *Thinking in Pictures and Other Reports from my Life with Autism*, was the subject of a critically acclaimed HBO movie that aired in February 2010 and won seven Emmy awards.¹⁸ It provided a positive message about both livestock production and the food animal industry, and it also encouraged the acceptance of people with autism and the recognition of their gifts.

Grandin said in a 2008 interview with Roybal, previewing the HBO movie, that in spite of the attention she's received, she has to remind herself not to get a big head. "You know what happens. Just look at statues of famous people – they all have pigeon poop on them."¹⁹

Instead, Grandin said she reminds herself to focus on her work for the food animal industry and helping people understand how the autistic mind works so that others diagnosed with autism can lead productive lives.

MAKING A DIFFERENCE: STAN HERD, CROP ARTIST (AUGUST 19, 1950 –)

Creating Works of Art with the Earth

Stan Herd is an artist with a special love for the land. He has blended an understanding of agriculture with art, but his most famous works will not be found in a museum, only in aerial photographs.

Herd grew up on a farm near Protection, Kansas, a small southwest Kansas town surrounded by wheat fields and grain elevators. He writes in his book *Crop Art and Other Earthworks*, published in 1994, that he spent his summers riding the tractor on windswept fields of the High Plains with only his imagination to keep him company. He wondered if people in the airplanes that flew overhead could see what he was doing, and if they could see the marks he left in the fields.²⁰



Stan Herd

Credit: Eli Reichman



Grains: Harvest the Energy

Courtesy of Stan Herd

Herd's parents supported his drawing and painting as a child. He attended Wichita State University to study art, and then worked as a conventional artist, selling canvases and murals. After renting a plane to fly over Dodge City and photograph a mural he had done, Herd was taken with the patchwork of the fields near the airport. That day, he decided to use farming tools and methods to create a field image.

In 1981, Herd produced a 160-acre sized portrait of Kiowa Chief Satanta in a wheat field near Jetmore. His works have included a portrait of Will Rogers; a still life of fruit, a loaf of bread, and milk entitled *The Harvest*; and one work that was covered internationally by news sources as varied as the *CBS Evening News*, the *Wall Street Journal*, and the *National Enquirer*. It was called *Sunflower Still Life*.

To start a project, Herd takes an idea, then plans and plots it out, using a grid system to adapt a paper sketch to a field-sized portrait. With assistants, Herd uses a 100-foot tape measure and a surveyor's transit (a telescope mounted on a tripod) to help plot the grid onto the chosen field. He inserts flags to help guide the plowing or mowing, depending on the shading and crops he is using to bring the image to life. Always, he is weighing the textures, colors, and contrasts of available grains and grasses and the variation in soil color, low spots, and ridges in a field.

It takes months for the designs to emerge, depending on weather and the plants' life cycles. Just as a traditional crop changes with the seasons, so does crop art. Herd has recognized an important lesson – that the process of creating the art is what is important.

Some of Herd's permanent works in Kansas include *Medicine Wheel*, done in collaboration with Haskell Indian Nations University and located south of the university campus in Lawrence; a portrait of Amelia Earhart, done in a field near Atchison using native grass, junipers, and stone; and *Prairiehenge*, a representation of Stonehenge in England, near Sedan. In 2009, the Kansas Lottery held drawings to award Stan Herd paintings of the nine Scenic Byways of Kansas, representing the Flint Hills, Prairie Trails, Post Rock, Smoky Valley, Wetlands and Wildlife, Gypsum Hills, and Glacial Hills byways.

MAKING A DIFFERENCE:

MARY KNAPP, CLIMATOLOGIST

(APRIL 7, 1955 –)

Asking Questions and Sharing Answers about the Weather

If a farmer wonders what the probability of drought is in the coming year, he or she might call Mary Knapp for the answer. Knapp is a climatologist for the state of Kansas. She works from the Weather Data Library at Kansas State University, merging pieces of information to answer questions about weather and how it affects the citizens of Kansas and the agriculture of the state. "It's like solving a huge puzzle," Knapp said. "I really like my job."

Knapp herself began asking questions about the weather early on. She said, "I was just always interested in that sort of thing – weather and its' effect on every aspect of life. In 1966, a major tornado had devastating effects on Topeka and its surrounding areas. It left a lasting impression. During high school in Junction City, I did a science fair project on the modification of cloud seeding and the legal aspects of altering the climate. It made a big impact."

Knapp attended Kansas State University, majoring in agronomy because of the variety of coursework and the "huge diversity" of opportunities available to its students and its graduates. After graduation, Knapp worked as a Peace Corps volunteer on a rice-growing project in the Dominican Republic. To ensure the success of the crop, the growers needed to know about the crop itself, but they also needed information about the cultural practices of the area, the issues within the community, the weather, and the microclimate of the country.

Knapp returned to Kansas State University to work for the Department of Entomology after her service in the Peace Corps and then moved to the newly formed Department of Communications. She subsequently took the job as state climatologist.

Among her primary responsibilities is the duty of sharing information about the weather to the people across the state. Because weather conditions affect crops in many ways, farmers pay particular attention to the information Knapp and her colleagues provide. "We try to get the truth out," Knapp said. "Kansas has a variable climate. We try to help people think about weather outlooks, maybe consider crops in areas that traditionally haven't grown them before."

Before she answers someone else's query, Knapp looks for the data, using many sources and computer models. The questions she asks are



Mary Knapp

Credit: K-State Research & Extension

Heroes in Agriculture

varied: “Can we grow cotton further north? Are we fighting invasive species or are we bringing them in? What do we need to consider when we start problem solving? Are we even asking the right questions?”

Other things to consider are the sources of the data and its possible bias. “Does the logic need to be questioned?” Knapp asked. She said climatologists follow a standard learning model: “It’s very important to take the time to investigate, explore, and evaluate. That’s the only chance to really get answers.”

With technological advances and the extensive use of computers, Knapp’s job has changed over the years. There was a “huge language gap” between the scientists in agriculture and the computer specialists when she began her job. “When I first started, desktop computers weren’t available,” she said. “I have tried to fill the gap between those who know how to use computers with the science needed to use them for that. We are trying to merge data from water, plants, economics, weather, insects, and lots of other fields to try to answer questions in agriculture.”

Knapp cautioned that one has to take care not to make drastic conclusions and provide quick solutions to fix what can be regarded as a problem. “I think there are a lot of uncertainties about global warming, and our data is for such a short time, really,” Knapp said. “When people tamper with nature, they may end up with larger issues than they even knew they had to begin with ... we should be wary of ‘fixing’ what we don’t know a lot about yet. Each one of us can do things to minimize our impact on the environment, while trying to increase our understanding of how it works.”

Knapp is undaunted by the challenge of constantly merging information and then offering answers. “People ask tough questions about weather – some of the data we have and some of it isn’t to be found yet,” Knapp said. “To do this job, I recommend the ability to communicate – a desire to know about things – a curiosity and persistence to always be asking questions.”

MAKING A DIFFERENCE:

LAURA INGALLS WILDER, AUTHOR

(FEBRUARY 7, 1867 – FEBRUARY 10, 1957)

Introducing Young Readers to Pioneer Life

“A long time ago, when all the grandfathers and grandmothers of today were little boys and little girls or very small babies, or perhaps not even born, Pa and Ma and Mary and Laura and Baby Carrie left their little house in the Big Woods of Wisconsin. They drove away and left it lonely and empty in the clearing among the big trees, and they never saw that house again.

*They were going to the Indian country.”*²¹

This is the start of the novel *Little House on the Prairie*, the third book in one of the 20th century’s most popular children’s book series. The Little House books, as the series has come to be known, were written by Laura Ingalls Wilder as a memoir of her life growing up in Wisconsin, Kansas, Minnesota, and South Dakota from the 1860s through the 1880s. *Little House on the Prairie* tells the story of the Ingalls family’s journey by covered wagon from Wisconsin to southeast Kansas and the time they spent there. The family – Pa, Ma, Laura, and her sisters Mary and Baby Carrie – built their little log cabin about 14 miles southwest of Independence, Kansas, and lived there in 1869 and 1870.



Little House Books

Credit: Amy Langvardt

Although the original home no longer remains, local volunteers built a replica of the Ingalls’ family cabin that is open to the public. The cabin sits on a 10,000-acre buffalo ranch owned by newscaster and television personality Bill Kurtis and his family, who have encouraged local tourism throughout Montgomery County. More than 20,000 people visit the site each year; they can also walk near Walnut Creek and see the well Pa Ingalls dug by hand.²²

In *Little House on the Prairie*, Wilder wrote in simple prose style with obvious fondness of a Kansas that is populated with brown-striped gophers with bright eyes and the many birds who speak with hundreds of differing calls. Laura, the seven-year old main character of the book, appreciates the prairie’s abundances – wildflowers, clean grass, and stars that glitter. She helps her family work new fields that hold the promise of turning the plains into farmland. Wilder set scenes that are poignant to readers of any age: the realization that packing up and moving across the country meant probably never seeing their friends and family again; the desolation of losing their Good Dog Jack during a dangerous creek crossing and the joyful elation and thankfulness that followed after he tracked down their covered wagon and rejoined the family. By the end of *Little House on the Prairie*, Pa and Ma’s dream of settling in Kansas has changed, and the family’s adventure continues in the next book in a different state.

THE LAURA INGALLS WILDER AWARD

Administered by the Association for Library Service to Children, a division of the American Library Association, the Laura Ingalls Wilder Award was first given to its namesake in 1954.

The award, a bronze medal, honors an author or illustrator whose books, published in the United States, have made a substantial and lasting contribution to literature for children over a period of years.

The 2011 recipient of the Laura Ingalls Wilder Award was Tomie dePaola, author and illustrator of nearly 250 books, including *Strega Nona*, *26 Fairmount Avenue*, *The Art Lesson*, and *Christmas Remembered*.



Source: Association for Library Service to Children

Rose Wilder Lane, the daughter of Laura Ingalls Wilder and Almanzo Wilder, assisted in introducing the stories to the public. She worked as a newspaper reporter in based in San Francisco in the 1910s and 1920s. She was a publicist for the American Red Cross during World War I and the first biographer of President Herbert Hoover. For this reason, the holdings and literary papers of Laura Ingalls Wilder and Rose Wilder Lane are housed at the Herbert Hoover Presidential Library in West Branch, Iowa. The papers reveal that Lane, as the more experienced writer, edited her mother's stories and helped with publishing.²³

Wilder's works have been read and loved by people worldwide since the first book *Little House in the Big Woods* appeared in print in 1931. The series has appealed to audiences of all ages, languages, and genders. Reports tell of students in an eighth grade classroom in Los Angeles that sit as rapt as a group of eight-year olds in Kansas while listening to their teachers read the books aloud. (The discussions older students might have about the attitudes toward American Indians have prompted calls for banning the books, though consensus shows the characters to be appropriate examples of the mindset of the time.) Many fans revisit the series as adults and find that the lessons they first learned are eternal, including perseverance and self-reliance, love and respect of family, and the enjoyment of non-material things.

KANSAS HEROES

Many leaders in the agriculture industry have found fame and fortune through their work to improve people's lives with the production of food, feed, fiber, fuel, and other products. The work of other leaders is also worthy of exploration, including Kansas agriculture industry leaders like Clyde Mermis, Lyle Yost, Barry Flinchbaugh, Gary Kilgore, Jim Shroyer, Dana Peterson, Bikram Gill, and Dusti Fritz. Every Kansas community has been home to notable agricultural leaders like Joe Jagger (Minneapolis), George Grant (Victoria), and Bernhard Warkentin (Newton) who sought to improve agricultural production and the food products available to people.

Find out more about heroes in agriculture, including those in your own community, and recognize their contributions – past and present – to make a difference. Who knows? The next leader in agriculture may be sitting in a Kansas classroom right now, dreaming up new uses for plants or thinking of ways to improve agricultural machinery. The future is bright for those who pursue excellence and choose to make a difference in agriculture or an agriculture-related field of study. ■

A SAMPLING OF KANSAS HEROES

Earl Brookover – pioneer in the cattle feeding industry who built the first commercial feedyard in the High Plains in 1951 near Garden City, Kansas; Brookover Feed Yards has consistently fed more cattle than any other feedyard in the United States for more than 50 years.

Dr. Barry Flinchbaugh – professor, agricultural economics, Kansas State University; adviser on agricultural policy to eight governors, six U.S. senators, two U.S. Secretaries of Agriculture, and U.S. House and Senate committees, as well as international organizations.

Dusti Fritz – director of Western States Field Services with the United Sorghum Checkoff Program, Manhattan, Kansas; served as first chief executive officer of Kansas Wheat and with the USDA's Foreign Agricultural Service.

Dr. Bikram Gill – professor in plant pathology and director of the Wheat Genetic and Genomic Resources Center, Kansas State University; an international expert in wheat research who heads a team responsible for wheat germplasm improvement and mapping of the genome of the wheat plant.

George Grant – immigrant from Scotland who founded Victoria, Kansas; introduced the Aberdeen Angus breed of cattle in America in 1873. Today, the American Angus Association is the largest breed registry association in the world.

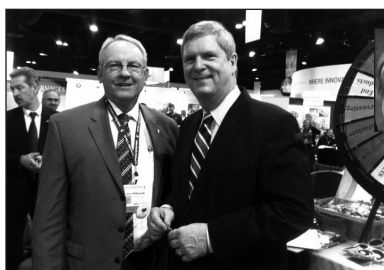
Phyllis Jackson (PJ) Griekspoor – agricultural journalist and editor of Kansas Farmer Magazine; worked as an award-winning agribusiness reporter at the Wichita Eagle newspaper for 18 years, as well as editor, copy desk chief, and page designer.

Joe Jagger – wheat producer from Minneapolis, Kansas, who dedicated his life to growing and promoting high quality wheat; hosted county wheat variety demonstration plots on his farm for 75 years. In recognition of his dedication to growing and promoting high quality wheat, the Jagger wheat variety, released in 1994, was named after him.

Clyde Mermis – district conservationist, USDA Natural Resource Conservation Service, Lawrence, Kansas; designed and built a rainfall simulator widely used to demonstrate the benefits of crop residue and no-till farming practices.

Continued on next page

KANSAS HEROES



NAWG Past President Jerry McReynolds and U.S. Secretary of Agriculture

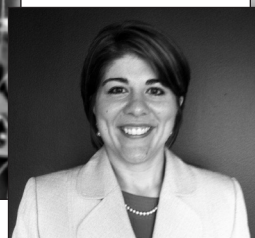
Credit: National Association of Wheat Growers



Dusti Fritz
Credit: United Sorghum Checkoff Program



Dr. Bikram Gill
Credit: K-State Research & Extension



Dana Peterson
Credit: National Association of Wheat Growers



Dr. Jim Shroyer
Credit: K-State Research & Extension

A SAMPLING OF KANSAS HEROES *continued*

Dana Peterson – chief executive officer, National Association of Wheat Growers; native of Smith Center, Kansas.

Dr. Jim Shroyer – professor and agronomy specialist, Kansas State University, Manhattan, Kansas; specializes in crop production and physiology, international agriculture, and extension methodology and technology transfer.

Lyle Yost – founded Hesston Manufacturing Company in 1947, specializing in hay harvesting machinery, Hesston, Kansas.

Bernhard Warkentin – Mennonite settler who came to Kansas in 1873; imported Turkey Red wheat variety, which remained the most popular wheat variety in the United States until 1944. Modern wheat varieties in Kansas contain, on average, about 50 percent of Turkey Red hard red winter wheat in their pedigrees.

John S. Whinery – grain miller from Salina, Kansas, who founded what is now Research Products Company (RPC), a corporation that helped to develop and market the process of enriching flour. Today, RPC works with international milling and baking companies to provide vitamin and mineral additives to their products.

ENDNOTES

1. Lawrence Svobida, *Farming the Dust Bowl* (Lawrence, KS: University Press of Kansas, 1986), p. 43-46.
2. Gregg Easterbrook, "Forgotten Benefactor of Humanity," *Atlantic Magazine*, January 1997, <http://www.theatlantic.com/magazine/archive/1997/01/forgotten-benefactor-of-humanity/6101/>.
3. Amanda Shaw, producer, "The Pizza Hut," KTWU Sunflower Journeys 2002 - 1507B, <http://ktwu.washburn.edu/journeys/scripts/2002/1507b.html>.
4. Robert Spector, *The Pizza Hut Story* (New York: Melcher Media, 2008).
5. "CFE Awards and Recognition," Center for Entrepreneurship, Wichita State University, <http://webs.wichita.edu/?u=CFEWEB&p=/Misc/Awards/RecognitionAwards/>.
6. Amanda Shaw, producer, "The Pizza Hut," KTWU Sunflower Journeys 2002 - 1507B, <http://ktwu.washburn.edu/journeys/scripts/2002/1507b.html>.
7. "George Washington Carver," Kansas State Historical Society, March 2011, http://www.kshs.org/portraits/carver_george.htm.
8. "BIO Presents MIT Professor Gregory Stephanopoulos the 2010 George Washington Carver Award for Innovation in Industrial Biotechnology," Biotechnology Industry Organization, June 29, 2010, <http://www.bio.org/node/2225>.
9. "K-State Ag Quick Facts," Kansas State University College of Agriculture, <http://www.ag.ksu.edu/p.aspx?tabid=1157>.

10. Lorin Kusmin, editor, *Rural America at a Glance, 2011 Edition*, USDA Economic Research Service, September 2011, <http://www.ers.usda.gov/Publications/EIB85/EIB85.pdf>.

11. "2003 Kansas Cooperative Hall of Fame: Herbert W. Clutter," Garden City Co-op, Inc., <http://www.gccoop.com/pages/custom.php?id=11083>.

12. Monica Springer, "Dedication Remembers Clutters," *Garden City Telegram*, September 14, 2009, <http://www.gctelegram.com/news/Dedication-remembers-Clutters-9-14-09>.

13. Kansas Wheat, "KAWG Research Foundation Offers Scholarship in Memory of Herb Clutter," *McPherson Sentinel*, February 5, 2010, <http://www.mcphersonsentinel.com/agriculture/x655690429/KAWG-Research-Foundation-Offers-Scholarship-in-Memory-of-Herb-Clutter>.

14. "Core Values," John Deere, http://www.deere.com/wps/dcom/en_US/corporate/our_company/about_us/core_values/core_values.page.

15. Joe Roybal, "Temple Grandin' Biopic up for 15 Emmy Awards," *BEEF Magazine*, July 9, 2010, <http://beefmagazine.com/cowcalfweekly/0709-temple-grandin-biopic-emmy-awards/>.

16. Joe Roybal, "Temple Grandin' Biopic up for 15 Emmy Awards," *BEEF Magazine*, July 9, 2010, <http://beefmagazine.com/cowcalfweekly/0709-temple-grandin-biopic-emmy-awards/>.

17. Temple Grandin, *Thinking in Pictures* (New York: Doubleday, 1995), p. 19.

18. "Temple Grandin Movie Wins 7 Emmy Awards," Temple Grandin, PhD, <http://www.templegrandin.com/>.

19. Joe Roybal, "Temple Grandin Talks about her Upcoming HBO Biopic," *BEEF Magazine*, October 31, 2008, <http://beefmagazine.com/cowcalfweekly/1031-temple-grandin-hbo-biopic/index.html>.

20. Jim Robbins, "A Tractor Instead of a Brush; Seeds Instead of Paint," *Smithsonian* magazine, July 1994, p. 71.

21. Laura Ingalls Wilder, *Little House on the Prairie*, (New York: Harper & Row, 1935), p. 1.

22. Marti Attoun, "Bill Kurtis Praises Prairies," *American Profile*, September 29, 2007, <http://www.americanprofile.com/articles/bill-kurtis-praises-prairies/>.

23. "The Rose Wilder Lane Collection," Herbert Hoover Presidential Library and Museum, <http://www.ecommcode2.com/hoover/research/wilder/index.html>.

REFERENCES

- "BOOK IT! National Reading Incentive Program," Pizza Hut, <http://www.bookitprogram.com/default.asp>.
- "Cooperative Extension System Offices," U.S. Department of Agriculture, <http://www.csrees.usda.gov/Extension/>.
- "Dr. Temple Grandin's Web Page," Dr. Temple Grandin, <http://www.grandin.com/>.
- Exploring Kansas Natural Resources Educator's Guide* (Manhattan, KS: Kansas Foundation for Agriculture in the Classroom, 2008).
- Fellman, Anita Clair, *Little House, Long Shadow: Laura Ingalls Wilder's Impact on American Culture* (Columbia, Missouri: University of Missouri Press, 2008).
- "Food and Agribusiness Management: Value Added Business Development Program," Department of Agriculture Economics, Kansas State University, <http://www.agmanager.info/agribus/busdev/assess/default.asp>.
- Goecker, Allan D., P. Gregory Smith, Ella Smith, Rebecca Goetz, "Employment Opportunities for College Graduates in Food, Renewable Energy, and the Environment United States, 2010-2015," Purdue University, 2010, <http://www.agriculture.purdue.edu/usda/USDAEmployOp2010.pdf>.
- Grandin, Temple with Mark Deesing, *Humane Livestock Handling* (North Adams, Massachusetts: Storey Publishing, 2008).
- Grandin, Temple, *Thinking in Pictures* (New York: Doubleday, 1995).
- Herd, Stan, *Crop Art and other Earthworks* (New York: Harry N. Abrams, Inc., 1994).
- "History," Deere & Company, http://www.deere.com/wps/dcom/en_US/corporate/our_company/about_us/history/history.page?.
- Kansas Historical Society, "George Washington Carver," Kansapedia, March 2011, <http://www.kshs.org/kansapedia/george-washington-carver/12004>.
- "Laura Ingalls Wilder," Herbert Hoover Presidential Library & Museum, <http://www.hoover.archives.gov/LIW/>.
- Silvey, Anita, ed., *The Essential Guide to Children's Books and Their Creators* (Boston: Houghton Mifflin Harcourt, 2002).
- Spector, Robert, *The Pizza Hut Story* (New York: Melcher Media, 2008).
- "Temple Grandin, Ph.D.," Temple Grandin, <http://www.templegrandin.com/>.
- Webb, Dave, *399 Kansas Characters* (Dodge City, KS: Kansas Heritage Center, 1992).

TEACHER'S RESOURCES

The Kansas Foundation for Agriculture in the Classroom (KFAC) offers lesson plans and other educational resources on the KFAC website: www.ksagclassroom.org.

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