## **The Work of Farming and Ranching**

"So there abide here two States: the grazing, farming corn land of eastern Kansas and the short grass pasture land and great wheat fields of western Kansas. Eastern Kansas is divided into small farms from 100 to 200 acres. ...But mostly in eastern Kansas the farmer is a barnyard stockman who grows his own corn, has his own pasture lot, cuts and bales his own alfalfa and hay, puts up his own fodder in the silo, and is economically sufficient to himself in the manufacture of the world's beefsteak, ham and eggs, fried chicken, and butter.

In western Kansas, the tendency is to large farms. It is a one crop country, a statement which needs quick modification, for alfalfa and buffalo grass pasture and in certain northwest counties of the State an occasional corn crop makes it possible for the farmer to live on a 200-acre farm. But speaking rather broadly, western Kansas is a wheat bin. Farms are profitable when they pass 200 acres. Large agricultural units requiring a heavy endowment of machinery are fairly profitable in western Kansas. The people tend to live in towns and villages. They do their farming August and September when the great motor plows furrow the fields, and again the farmers get busy in July when the combines reap and thresh the grain. The little farm with its garden its diversified crop, its chickens, its calves, its pigs, is not found so often in western Kansas..."

### William Allen White in The WPA Guide to the 1930s Kansas, University of Kansas Press, 1939, p. 2.

Kansas was, and is, an agricultural state. Wheat was cultivated as early as 1839. The nation's first "department of agriculture" was started in Kansas in 1857 when the Kansas Agricultural Society was formed, followed by the State Board of Agriculture 1872, the grandfather to the organization in the other 50 states. Kansas State Agricultural College, the first land grant college formed to help educate farmers and their families, was founded in Manhattan, Kansas, in 1863 from the earlier Bluemont College of 1858. From the beginning, K-State was involved in agricultural research, including developing better machinery, farming techniques, and new hybrid seeds; providing veterinary services and advice on animal husbandry; and assisting farmers through its extension offices.

During WWI, and again during WWII, "Wheat will win the war!" became a popular slogan. More and more land was cultivated and grazed in an effort to support the war. Thirty-two million acres of land were broken in the Great Plains between 1909-1929, and the production of wheat jumped 30%. There were 13,132,000 acres planted with wheat in 1929 in Kansas alone.

By 1930, the height of the period featured in this exhibition, there were 3,090,000 head of cattle, 2,487,000 hogs, and 659,000 sheep in the state. The first feedlot was opened in Kansas in Garden City in 1951, changing the cattle industry forever. Then came the Depression, the Dust Bowl and large changes in farming technology and principles of conservation.

Water and irrigation have been key developments in Kansas agriculture, especially with a cycle of droughts and new knowledge gained after the Dust Bowl of the 1930s. During the drought of the 1890s more and more farmers began to tap ground water with windmills. Water was then run through irrigation ditches. By 1920 crops on 95,000 acres of Kansas farmland were being irrigated, 85% of them located west of Dodge City. When drought hit again in the 1950s, the dust blew, but New Deal practices, including contour plowing, shelterbelts and Soil Conservation Districts, helped hold some of the dirt down. Today center-pivot irrigation will prevent the dust storms, as long as the aquifers hold out.

In Kansas, wheat farmers progressed from cradle scythe to combine in 75 years. The following figures show how the development of farming equipment changed the face of farming:

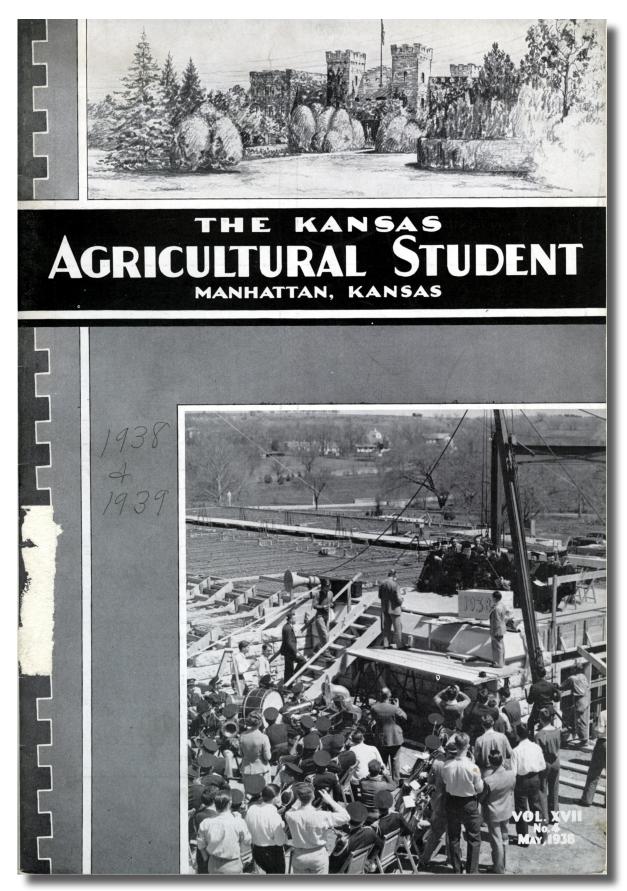
1890 - 40-50 labor hours to produce 100 bushels (5 acres of land required) of wheat – gang plow, seeder, harrow, binder, thresher, wagons and horses.

1930 - 15-20 labor hours to produce 100 bushels (5acres of land required) of wheat -3 bottom gang plow, tractor, 10 foot tandem disc, harrow, 12 foot combine, and trucks

**1955** – 6-12 labor hours to produce 100 bushels (4 acres of land required) of wheat – tractor, 10 foot plow, 12 foot weeder, harrow, 14 foot drill and self-propelled combine and trucks

1965 – 5 labor hours to produce 100 bushels (now only 3 1/3 acres of land require) of wheat

The result was larger and fewer farms. In 1910 there were 178,000 farms in Kansas, and the number had dropped to 166,000 by 1930 and 140,000 in 1948.



*The Kansas State Agricultural Student* 1938. Courtesy of the Morse Department of Special Collections, Hale Library, Kansas State University

### AGRICULTURAL ENGINEERING



Agricultural Engineering students measuring the power requirements of a small electric motor driven hammer mill in a Field and Power Machinery Laboratory class.

Agricultural engineering is the adaptation of engineering art and science to the needs of agriculture. The agricultural engineer is trained in the fundamentals of engineering and has, in addition, a thorough knowledge of agricultural problems to whose solution engineering can contribute. Among these problems are those of soil and water conservation; land drainage, irrigation, and reclamation; rural electrification; and the design, construction, and maintenance of farm machinery and buildings. Farm equipment manufacturers, Federal agricultural agencies, college extension services, and companies with large land holdings are among employers of agricultural engineers. Kansas State's curriculum is designed to train men for such positions.

Agricultural Engineering students in a Farm Motors Laboratory class checking the performance of a farm tractor by measuring brake horsepower, and fuel and air consumption.



*The Kansas State Agricultural Student* 1938. Courtesy of the Morse Department of Special Collections, Hale Library, Kansas State University

# FEED GRINDING with small ELECTRIC MOTORS



Publication on Feed Grinding issued by Kansas State College of Agriculture and Applied Science Extension Service, September 1941.

Courtesy of the Morse Department of Special Collections, Hale Library, Kansas State University

than unground grain. Results of tests reported by Black, Jones, and Keating<sup>19</sup> on using milo for fattening steers are given in Table XIV.

#### Table XIII. A Comparison of Ground Barley vs. Whole Barley for Fattening Yearling Steers.

	Gr'nd barley Linseed meal Alfalfa hay Corn silage	Whole barley Linseed meal Alfalfa hay Corn silage
Lot No	1	2
Number of animals	10	10
Feeding period, days	175	175
Initial weight, lbs	687.2	692.7
Final weight, lbs	1,081.5	1,063.6
Average daily gain Feed per 100 lbs. gain	2.25	2.12
Ground barley	553.75	
Whole barley	1	700.12
Linseed meal	87.30	92.82
Alfalfa hay	187.63	202.88
Corn silage	541.54	696.67
Total pounds of feed.	1,370.22	1,692.49

Wilson and Wright<sup>20</sup> of the South Dakota station, in reporting on the use of rye for cattle, showed that grinding produced an average daily gain of 0.4 pound per head over the whole rye when fed with alfalfa hay. The gains as reported are shown in Table XV.

### Table XV. Results of Feeding Whole and Ground Rye for Fattening Steers.

	Lot No. 1 Ground rye Alfalfa hay	Lot No. 2 Whole rye Alfalfa hay
Number of days fed.	90	90
Average gain per head, pounds	234	197
Average daily gain per head, pounds	2.60	2.19
Feed consumed for 100 pounds gain:		
Grain	492	685
Alfalfa hay	449	360

**Grinding Grain for Sheep.** Ground corn and ground alfalfa hay were compared with whole corn and whole alfalfa hay when hand-fed to lambs in the South Dakota experiment as reported by Wilson, Wright and Fenn<sup>21</sup>. The total amount of feed consumed and the gain produced are given in Table XVI.

Table XVI. Comparison of Ground and Whole Feeds for Feeding Lambs. (Summary of threeyear tests.)

	Whole Feed, Corn and Alfalfa Hay	Ground Feed, Ground Corn, Ground Al- falfa Hay
Method of feeding	Hand fed	Hand fed
Number of lambs	45	44
Number of days fed .	81	81
Initial weight per lamb, pounds	65	64.6
Final weight per lamb, pounds	97.1	94.2
Total gain per lamb, pounds	32.1	29.7
Average daily gain per lamb, pounds	0.40	0.37

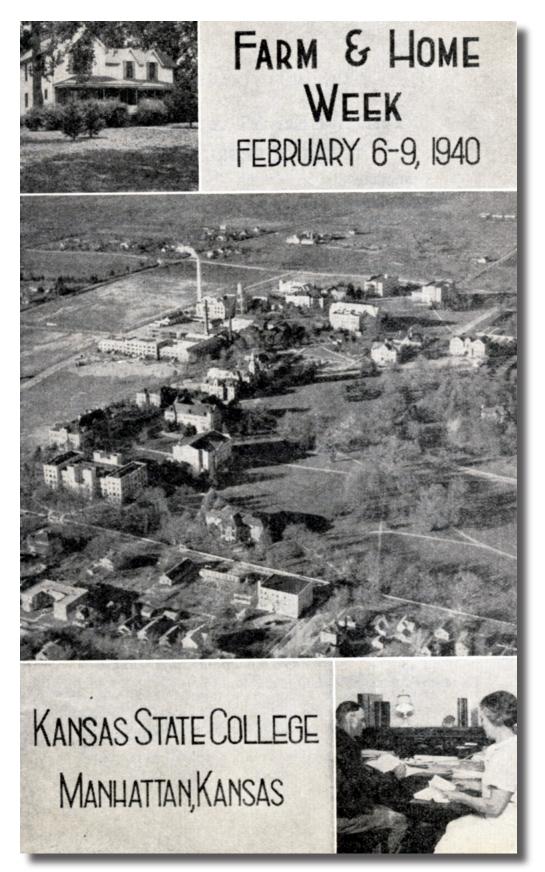
Russell<sup>1</sup> of Illinois stated that grinding for sheep will generally prove profitable:

- 1. When feeding sheep with poor teeth.
- 2. When feeding young lambs up to 5 or 6 weeks of age.
- 3. When fattening lambs selffed such a mixture as corn and chopped or ground hay.

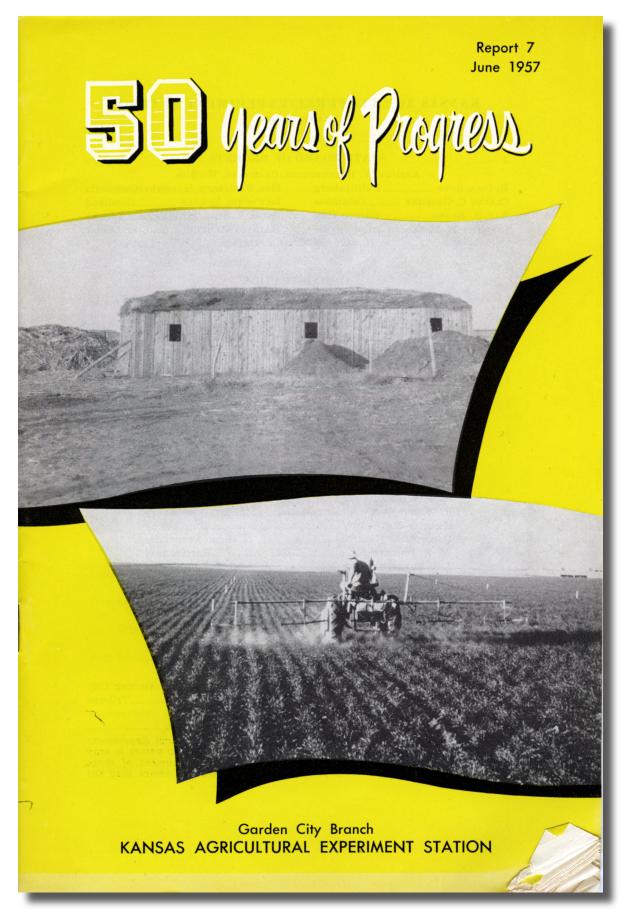
Grind Grain for Hogs. Henry and Morrison<sup>22</sup> in their book "Feeds and Feeding" showed that "with 200-pound pigs grinding increases the percentage digested." They also concluded that pigs"

Publication on Feed Grinding issued by Kansas State College of Agriculture and Applied Science Extension Service, September 1941.

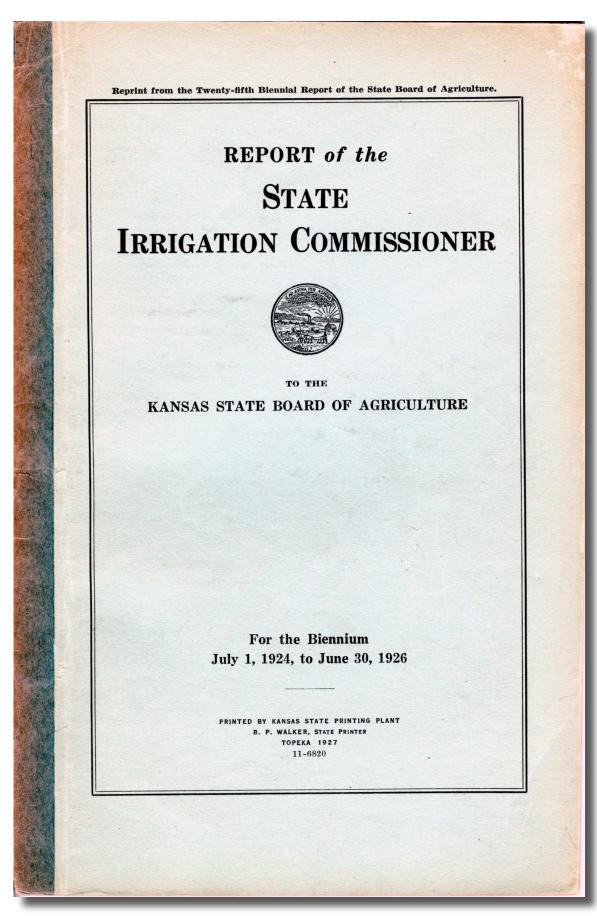
Courtesy of the Morse Department of Special Collections, Hale Library, Kansas State University



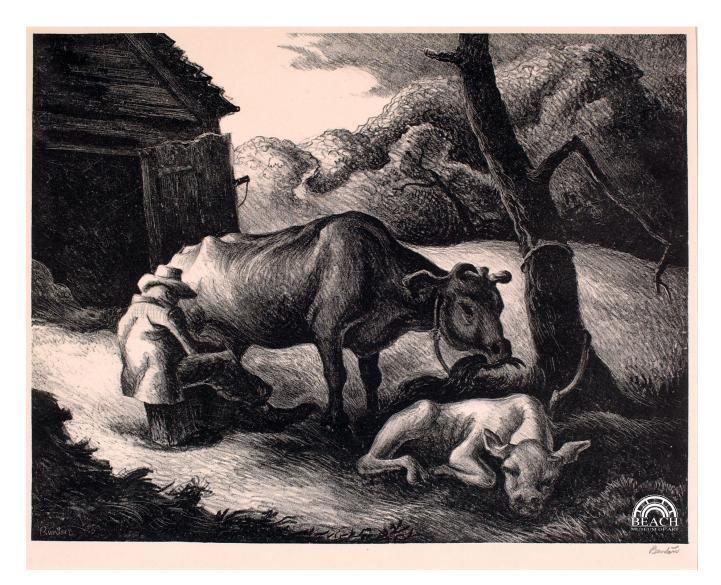
Pamphlet for Farm & Home Week at Kansas State College, February 6-9, 1940. Topics included Dairy, Poultry, Home Economics, Agronomy, Bee Keeping, and Rural Electrification. Courtesy of the Morse Department of Special Collections, Hale Library, Kansas State University



Courtesy of the Morse Department of Special Collections, Hale Library, Kansas State University



Courtesy of the Morse Department of Special Collections, Hale Library, Kansas State University



**THOMAS HART BENTON** (UNITED STATES, 1889-1975) *White Calf*, 1945 **THOMAS HART BENTON** (UNITED STATES, 1889-1975) White Calf, 1945 Lithograph on paper 10 3/4 x 13 1/4" KSU, Beach Museum of Art, bequest of Raymond & Melba Budge, 1992.61b

By the end of the 19<sup>th</sup> century there more than 650,000 milk cows on Kansas farms. Farm women often supplemented the family income by selling extra butter to local merchants. Kansas milk cows in 1925 produced 251,986,977 gallons of milk.

"We had milk off from four to eight cows every year...there was anything but romance in skimming twenty pans of milk and churning every other day. The butter had its first working with salt, on the next morning it had to be finished for packing or made into rolls. There were all the pans, the milk pails again at night and perhaps milk to skim for the weaning calves. Romance, indeed!"

Anne E. Bingham, "Sixteen Years on a Kansas Farm" from *Quotable Kansas*, Tom Averill, Washburn University Center for Kansas Studies, 2002-2005.



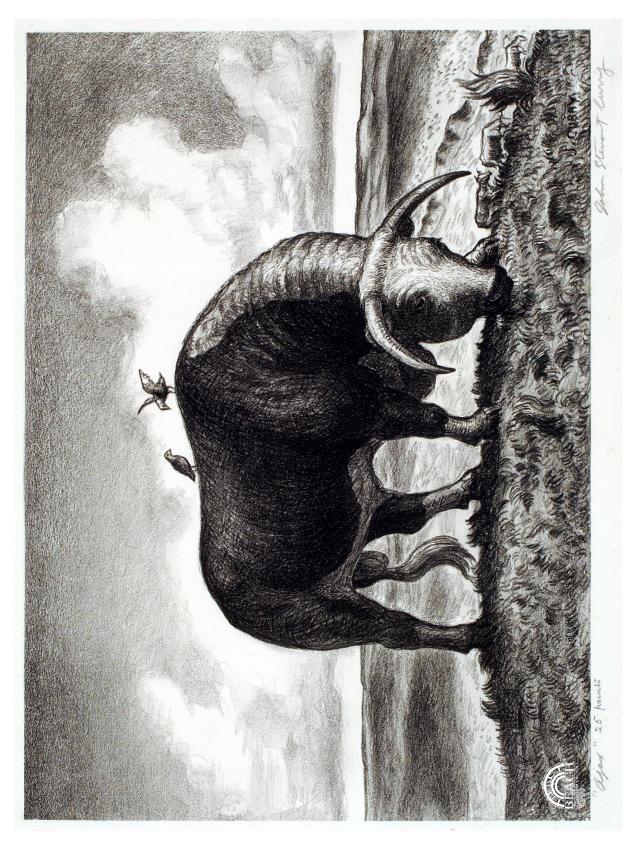
**JOHN STEUART CURRY** (UNITED STATES, 1897-1946) *Cattle in Meadow*, ca. 1930 JOHN STEUART CURRY (UNITED STATES, 1897-1946) Cattle in Meadow, ca. 1930 Watercolor on paper 10 x 14" KSU, Beach Museum of Art, bequest of Kathleen G. Curry, KC1034

A continuous topic of interest for Curry, he produced several sketchbooks of drawing of Herefords in the summer of 1933 –"so fat that the rain would stand in the middle of their backs."

"The Great Blizzard" of January 1886 changed the cattle industry in Kansas. After losses as high as 80%, ranchers decided the open range system would no longer work in Kansas. With closed ranges, fenced with barbed wire, cattleman began breeding better stock, with Herefords becoming an increasingly popular breed.

"Large-scale farming does not pay except in cattle growing where the bluestem pastures nourish flocks larger than Abraham ever drove out of the Land of Ur when he had 'cattle on a thousand hills.""

William Allen White in The WPA Guide to the 1930s, University of Kansas Press, 1939, p. 2.



JOHN STEUART CURRY (UNITED STATES, 1897-1946) Ajax, 1932 JOHN STEUART CURRY (UNITED STATES, 1897-1946) Ajax, 1932 Lithograph on paper 10 x 14" KSU, Beach Museum of Art, acquisition made possible with funds provided by the Friends of Art, 1991.17

"I shall never forget the picture of the big Hereford bull John showed down here in our Kansas City Museum. Our town, although it is still a sort of smoky cow-killer's town, pretty rough and ready in its basic character, is full of mincing sisters, male and female, who in for the love of art. The tittering horrors that John's bull occasioned was a lesson. All the people who were trying to forget the manure on grandfather's boots took a crack at it. All the two-bit aesthetes, who make manners take the place of scholarship, lost their pants. But the bull was effective. It is still talked about. It was galvanic."

Thomas Hart Benton, in *Demcourier* for April 1941 from *John Steuart Curry, Pagent of America*, Lawrence E. Schmeckebeir, NY: American Artists Group, 1943.

"Sometimes a bull escaped. When someone yelled, 'The bull is out,' there was bound to be excitement. Fortunately, the fifteen-hundred-pound animals had no idea how strong they were, or they would have roamed free all the time."

Section 27: A Century on a Family Farm, Mil Penner, University Press of Kansas, 2002, p 112.



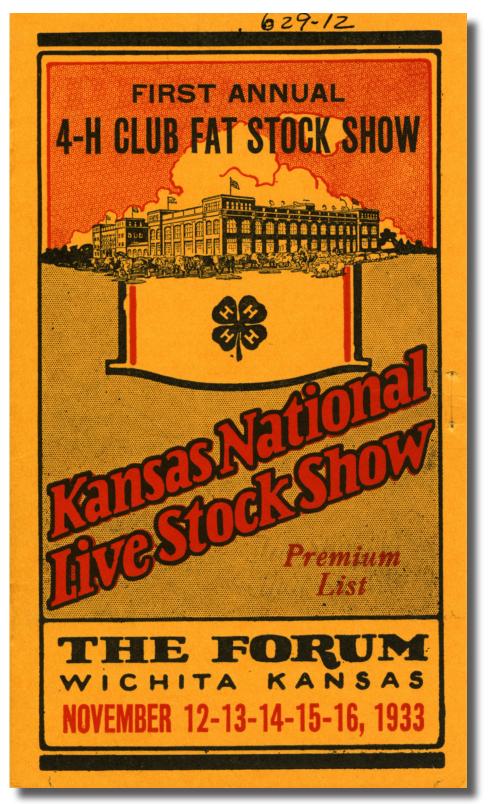
JOHN STEUART CURRY (UNITED STATES, 1897-1946) Cattle Fair, 1933



JOHN STEUART CURRY (UNITED STATES, 1897-1946) Cattle Fair, 1933 Watercolor over graphite on paper 15 x 22" KSU, Beach Museum of Art, bequest of Kathleen G. Curry, KC1643

The Kansas Livestock Association was formed in 1894 when more than 100 Flint Hills ranchers met in Emporia to discuss cattle theft problems and unreasonable railroad rates. They dealt with issues like hoof and mouth disease during the 'teens and getting a military exemption for farm laborers during WWI.

Animal exhibitions were an early part of the territorial fairs in Kansas. In 1905 the first Corn and Canning Clubs were started for farm youth, working with Extension Agents. Otis Hall of K-State was an early club leader and came up with the Name 4-H, (Head, Heart, Hands, Health) in 1914 uniting 247 clubs. Club projects include raising and showing livestock.

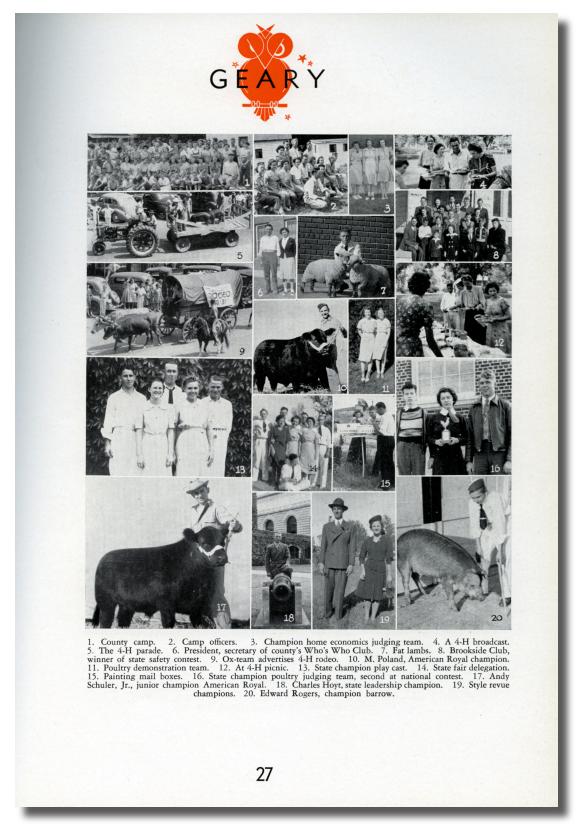


1933 4-H Stock Show booklet from the Kansas National Live Stock Show in Wichita.



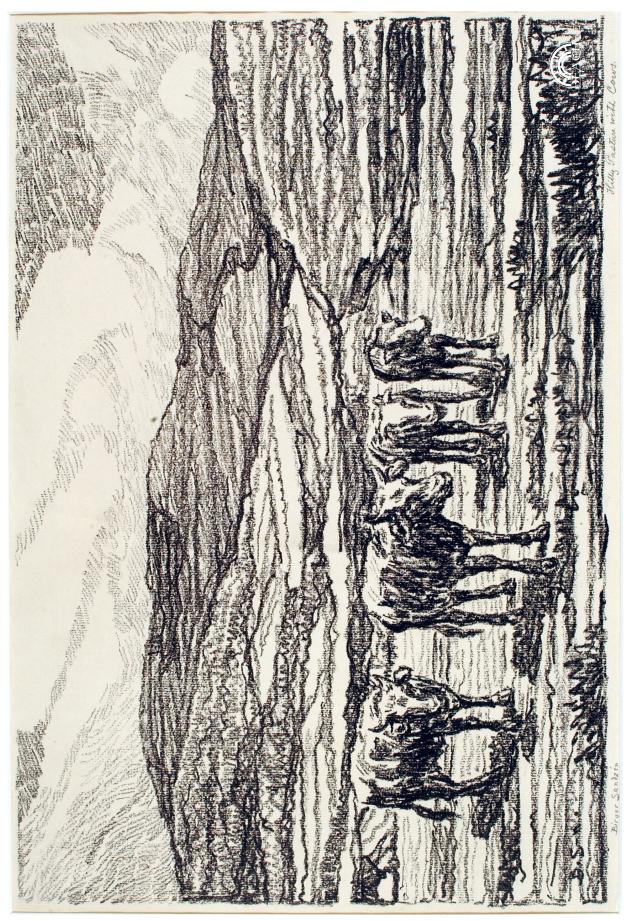
*Who's Whoot*, 1940, published by the Collegiate 4-H Club Kansas State College of Agriculture and Applied Science for the Who's Who 4-H Club of Kansas. The magazine featured news and photographs from each county.

Courtesy of the Morse Department of Special Collections, Hale Library, Kansas State University



*Who's Whoot*, 1940, published by the Collegiate 4-H Club Kansas State College of Agriculture and Applied Science for the Who's Who 4-H Club of Kansas. The magazine featured news and photographs from each county.

Courtesy of the Morse Department of Special Collections, Hale Library, Kansas State University



**SVEN BIRGER SANDZÉN** (UNITED STATES, BORN IN SWEDEN, 1871-1954) *Hilly Pasture with Cows*, 1917 SVEN BIRGER SANDZÉN (UNITED STATES, BORN IN SWEDEN, 1871-1954) Hilly Pasture with Cows, 1917 Lithograph on paper 11 15/16 x 18" KSU, Beach Museum of Art, gift of Pauline Brown Pfuetze (Virgil & Pauline Brown Collection), 1996.32

Sandzén arrived at Bethany College in Lindsborg, Kansas, in 1894, after emigrating from his native Sweden. Sandzén taught at Bethany College for over five decades and he was a WPA artist, a member of the Prairie Printmakers and teacher at the Broadmoor Art Academy in Colorado Springs. His paintings and prints reflect the world he saw around him and he was friend and mentor to many of the other artists featured in this exhibition.

### We Miss The Hogs And Cattle

Some years ago our valley teemed with cattle, hogs and sheep, The people planted corn and such and made the farm complete We used to drive out visiting and we'd see the piggies eat We'd hear the cows a lowing and we'd hear the lambkins bleat; But now that day is passed away within this vast domain, We miss the hogs and cattle and we wish them back again.

A Book of Poems, Nettie Squire Sutton, Minneapolis, KS: Messenger Press, n.d., pp. 31-32.



**JANET TURNER** (UNITED STATES, 1914-1988) Bulldogging Stock, ca. 1949 JANET TURNER (UNITED STATES, 1914-1988) Bulldogging Stock, ca. 1949 Color linoleum cut on paper 13 x 9" KSU, Beach Museum of Art, 2000.18

Turner was born in Kansas City, Missouri, and studied at the Kansas City Art Institute with Thomas Hart Benton from 1936 to 1941. She earned a doctorate in art education from Teachers College, Columbia University, in New York in 1960. The artist had an abiding interest in portraying animals in their natural habitat. Her collected works are located at the Janet Turner Print Gallery at California State University, Chico, where she developed a printmaking program and taught from 1959-1983.

Kansas cattle history begins with the cattle drives from Texas 1867 to 1885. By 1890 the state ranked third in the nation in cattle population. Large stock growers associations were formed to protect the cattle and land from rustlers and homesteaders.

In 1863 the first department dedicated to teaching animal agriculture at Kansas State University was the Farming Department. In 1905 the Animal Husbandry was formed and in 1977 the name was officially changed to Animal Sciences and Industry.



Feed lots at Kansas State Agricultural College ca. 1904, at the northwest corner of the campus, where Van Zile Hall stands today. Courtesy of the Morse Department of Special Collections, Hale Library, Kansas State University



Bull 112, Manhattan Experiment Station Courtesy of the Morse Department of Special Collections, Hale Library, Kansas State University



**CLARENCE WILLIAM ANDERSON** (UNITED STATES, 1891-1971) *Early Speed* 

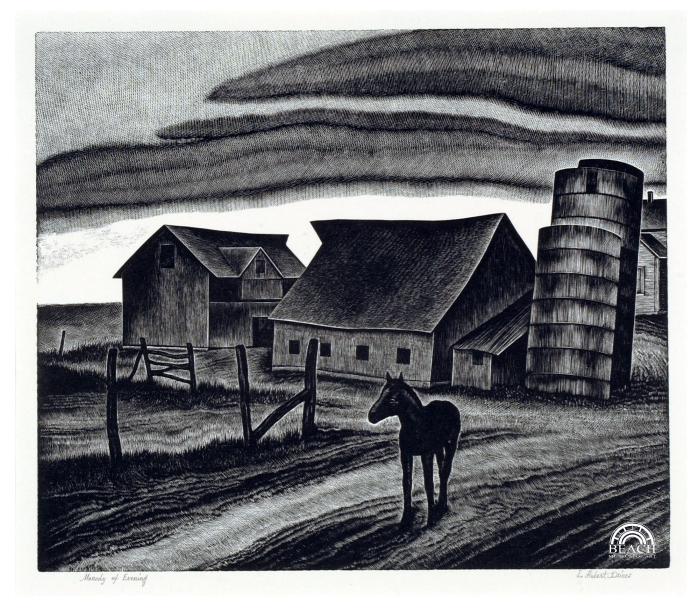
CLARENCE WILLIAM ANDERSON (UNITED STATES, 1891-1971) Early Speed Lithograph on paper 9 5/16 x 12 1/4" KSU, Beach Museum of Art, bequest of Raymond & Melba Budge, 1992.94

C. W. Anderson is much beloved for his illustrations of horses, such as those appearing in the popular *Billy and Blaze* series of children's books first published in 1936. Anderson was born in Wahoo, Nebraska, and after attending the School of the Art Institute of Chicago and working in New York, he returned to his native state to settle in Mason, Nebraska.

Southeastern Kansas is the home to many large horse farms today. These horses are bred for racing, pleasure riding, and ranching.

"...two young horses heads high side by side swept down at a gallop—came loping with the sun in their manes and aflame on their free-swinging shoulders and flanks."

From "Two Horses Running" by Kenneth Wiggins Porter, from *The Kansas Poems of Kenneth Wiggins Porter*, Thomas Fox Averill, Washburn University, Center for Kansas Studies, 1992.



**E. Hubert Deines** (United States, 1894-1967) *Monody of Evening*, 1945

E. Hubert Deines (United States, 1894-1967)
Monody of Evening, 1945
Wood engraving on paper
7 1/2 x 8 3/4"
KSU, Beach Museum of Art, gift of the family of E. Hubert Deines, 1969.48

"We used horses for farming, for putting up hay, raising windmills towers, and, if roads were bad, going to town. We brought the horses in from the pasture first thing in the morning, put them in their stalls and fed and harnessed them before breakfast."

Voice of the Plains, John Cogswell, "Old Ways on the Ranch," CA: Greenridge Press, 1987, p. 16.



**CHARLES B. ROGERS** (UNITED STATES, 1911-1987) Suckling Foal

CHARLES B. ROGERS (UNITED STATES, 1911-1987) Suckling Foal Lithograph on paper 7 x 9 5/8" KSU, Beach Museum of Art, gift of Mr. & Mrs. James Lee Moffett, 1999.36

The tractor replaced the work horse for farmers by the end of the 1940s, but ranchers continue to use horses for their work. Today there are still about 400,000 people in America who depend on horses for farming, logging and ranching.

"Horses also continued to increase in number until 1919, when they reached a peak of 1,300,000 draft animals; thereafter their number began to decline sharply. Seventeen years later (1936) motorized farming was at its height with 63,000 farm tractors and 24,000 combines; in the same year there were only 545,000 draft animals."

The WPA Guide to 1930s Kansas, University Press of Kansas, 1939/1948, pp. 69-70.

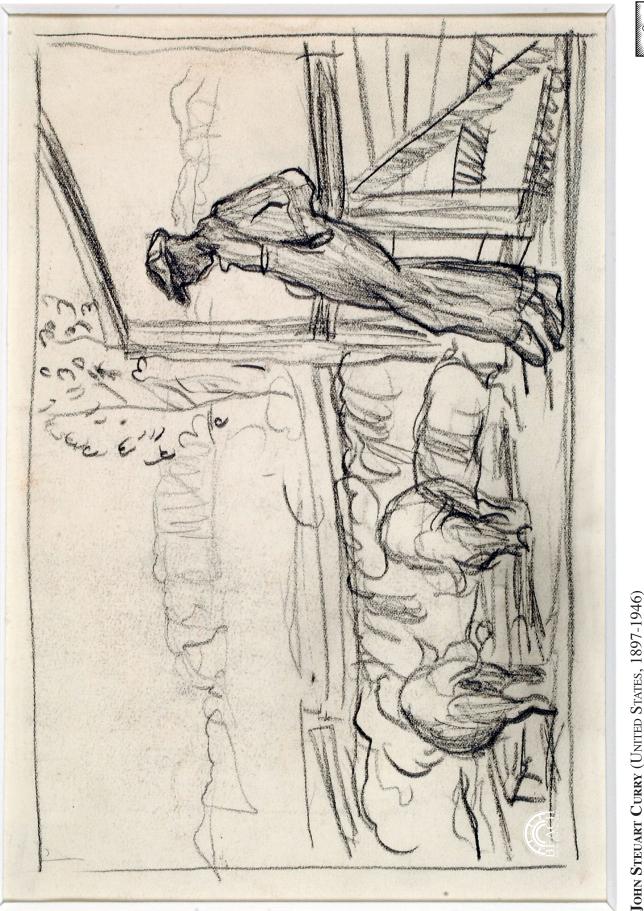


**GRANT DEVOLSON WOOD** (UNITED STATES, 1891-1942) *February*, 1940

**GRANT DEVOLSON WOOD** (UNITED STATES, 1891-1942) *February*, 1940 Lithograph on paper 8 7/8 x 11 7/8" KSU, Beach Museum of Art, acquisition made possible with funds provided by the Friends of Art, 1985.2

"Oh it was cold! To quote John Keats: 'The owl, for all his feathers, was a-cold. The Hare limp'd trembling through the frozen grass.' The horses steamed from their nostrils."

Voice of the Plains, John Cogswell, "The Coldest Day," CA: Greenridge Press, 1987, p. 17.



JOHN STEUART CURRY (UNITED STATES, 1897-1946) Feeding Pigs, ca. 1925 JOHN STEUART CURRY (UNITED STATES, 1897-1946) Feeding Pigs, ca. 1925 Graphite on paper 6 x 9 1/2" KSU, Beach Museum of Art, bequest of Kathleen G. Curry, KC1623

Hogs date back to the beginning of Kansas settlement with the hog population in 1885 reaching 3 million head. Today it is one of the more contentious industries in Kansas, with corporate hog facilities located in southwestern Kansas. The modern indoor hog facilities, while highly cost effective, make smelly neighbors, and the lagoons can pollute ground water. On the other hand, they can be an economic boon to failing rural areas.

"In those days hogs brought maybe four or five cents a pound, and the lard was in great demand. Today the price is ten times that, but no one wants lard."

*Farm Town A Memoir of the 1930s*, photographs by J. Wes McManigal, text by Grant Heilman, Brattleboro, VT: The Stephen Green Press, 1974, p. 73.



HERSCHEL C. LOGAN (UNITED STATES, 1901-1987) Who-e-e-e, 1930



HERSCHEL C. LOGAN (UNITED STATES, 1901-1987)
Who-e-e-e, 1930
Woodcut on paper
4 x 6"
KSU, Beach Museum of Art, acquisition made possible with funds provided by the Friends of the Beach Museum of Art, 2000.90

"Pandemonium erupted when someone entered the pig barn with a slop bucket. Pigs that were outside wallowing in the mud would all hit the doors at the same time. Squealing, grunting, and pushing, they would crowd the trough. Like every farm household we fed the pigs skim milk and kitchen scraps mixed with mash. The slop bucket was the archetypal garbage disposal, ever present in the kitchen or near the cream separator."

Section 27: A Century on a Family Farm, Mil Penner, University Press of Kansas, 2002, pgs 102-103.

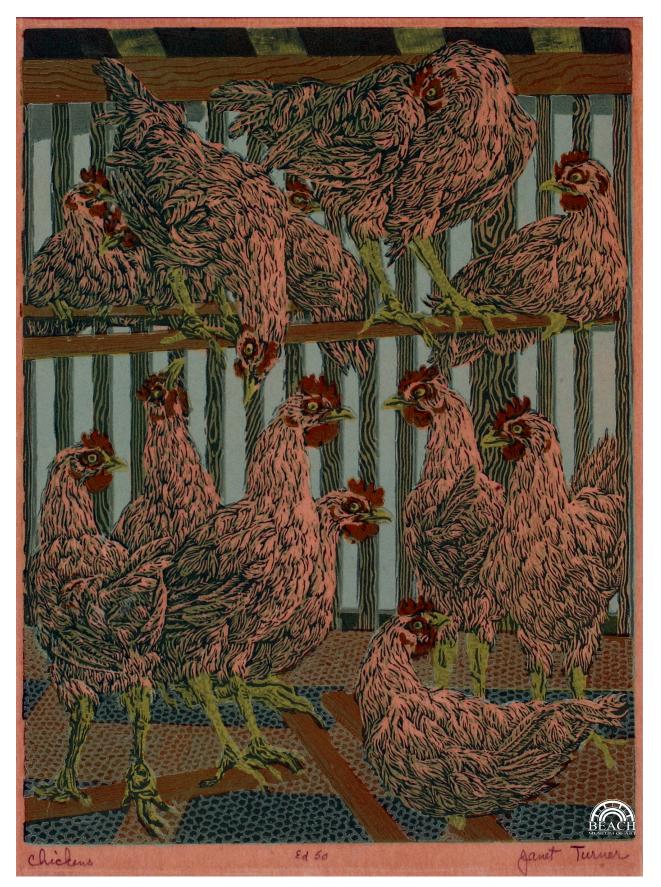


HERSCHEL C. LOGAN (UNITED STATES, 1901-1987) Feeding Time, 1923

HERSCHEL C. LOGAN (UNITED STATES, 1901-1987) Feeding Time, 1923 Woodcut on paper 4 x 5 15/16" KSU, Beach Museum of Art, gift of Peggy L. Sondergard & Samuel H. Logan, 2002.8

"The chickens, however, were a family responsibility. The man was to furnish mash and grain, haul manure, cull the chickens, and maintain the chicken house. This left scattering feed and gathering eggs—and worst of all, putting feisty broody hens in a little cage to cool them down – to the women and children."

Section 27: A Century on a Family Farm, Mil Penner, University Press of Kansas, 2002, p. 52

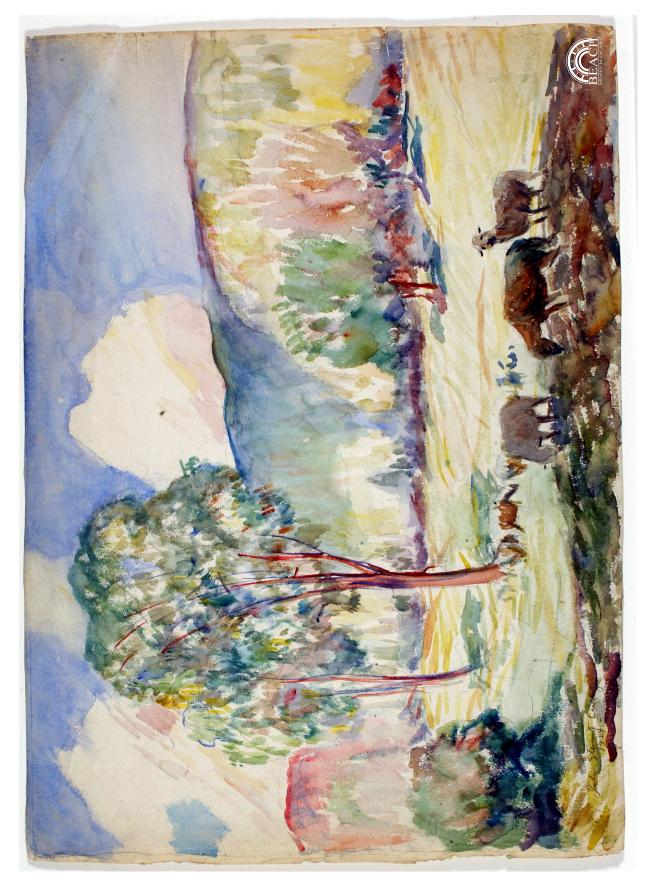


JANET TURNER (UNITED STATES, 1914-1988) Chickens, ca. 1948

JANET TURNER (UNITED STATES, 1914-1988) Chickens, ca. 1948 Color linoleum cut on paper 11 15/16 x 9" KSU, Beach Museum of Art, gift of Mr. & Mrs. James Lee Moffett, 2003.97

Some of Turner's work reflects her time in east Texas, where she taught art at Stephen F. Austin University from 1947-56 and began making prints from multiple linoleum blocks. The artist continued to be interested in livestock and ranching after she moved to California, where she settled for the remainder of her career.

In 1903, nearly \$6.5 million worth of poultry and eggs were sold by producers in the state of Kansas. In 1925 egg production in Kansas was valued at \$23,281,151.

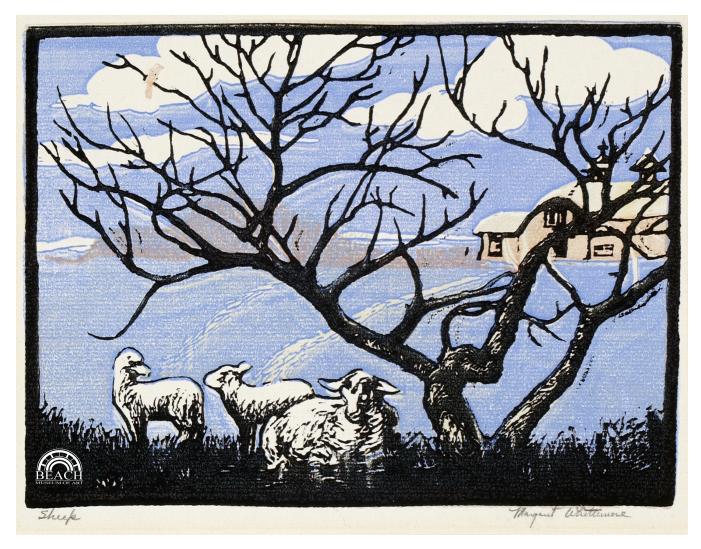


JOHN STEUART CURRY (UNITED STATES, 1897-1946) Sheep in Pasture, 1924 JOHN STEUART CURRY (UNITED STATES, 1897-1946) Sheep in Pasture, 1924 Watercolor over graphite on paper 17 1/2 x 25" KSU, Beach Museum of Art, bequest of Kathleen G. Curry, KC1077

Sheep became important to the livestock industry in Kansas during the 1870s and 1880s. Sheep grazing and the fencing of sheep (and cattle pastures) were a source of controversy on the Great Plains. In the early years of settlement cattlemen didn't like sheep traipsing across their land and complained they ruined the grazing areas for cattle and horses, resulting in the range wars popularly depicted in Western movies. Today cattle and sheep graze successfully together.

"The sheep were my favorites but they weren't the brightest creatures. If one sheep went through a hole in a fence, they all went through, with no idea how to get home. They really got my dander up when I'd chase them back to the corral, and they'd run right past the open gate."

Section 27: A Century on a Family Farm, Mil Penner, University Press of Kansas, 2002, p. 114.



MARGARET E. WHITTEMORE (UNITED STATES, 1897-1983) Sheep

MARGARET E. WHITTEMORE (UNITED STATES, 1897-1983)

Sheep Color block print on paper 6 5/8 x 9" KSU, Beach Museum of Art, N123

Whittemore was born in Topeka, Kansas, and spent her artistic career recording the natural and manmade landmarks of Kansas and the state's native birds and trees. She trained at the Art Institute of Chicago and at a summer artist's colony under Ralph Pearson in Taos, New Mexico. Whittemore supported herself as a draftsman for the Atchison, Topeka, and Santa Fe Railroad and as an art teacher.

"We had a slug of sheep down on that farm. Sheep were more important then. Lambs did will on lespedeza, and didn't take much grain. They'd clean up cornfields for you. But it takes a real topnotch man to handle them. We'd buy them in from Idaho in July or August and sell them out in January or February."

*Farm Town, A Memoir of the 1930s*, photographs by J. Wes McManigal, text by Grant Heilman, Brattleboro, VT: The Stephen Green Press, 1974, p. 70.

# Machines

### **Breaking the Soil**

Plows and harrows are used to break up the soil for planting in the spring. Moldboard plows are used to break the land by turning up natural vegetation – commonly known as sodbreaking. A harrow's discs will break the soil down further, kill any vegetation still alive, and level the soil for planting. Both the plow and the harrow were originally pulled by horses. Later innovations included gang plows and harrows with multiples blades or discs. Both gang plows and harrows are used today, pulled behind a tractor.

#### **Grain Binder**

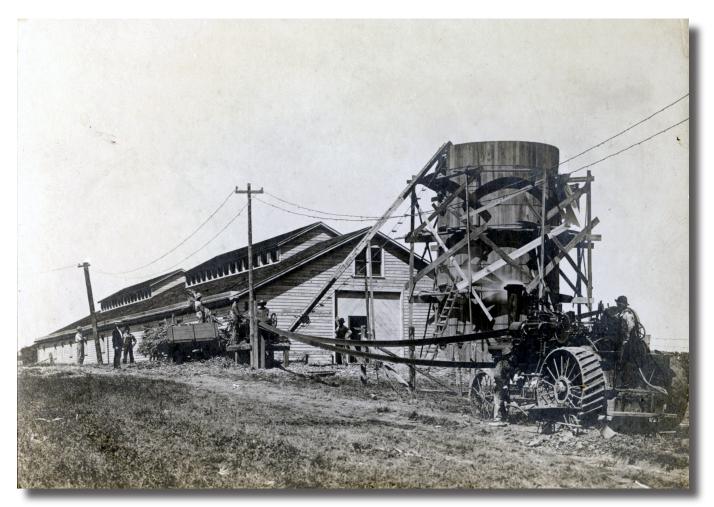
Early binders were ground-driven and pulled by a team of horses. The driving wheel rotated and powered the sickle and the reel. As the reel rotated it bent the stalks inward towards the sickle which cut the stalks off a few inches above the ground. A cloth canvas then conveyed the grain to a gear driven knotter which tied several stalks together into a small bundle. Workers followed behind and placed several bundles together to form a shock to allow for further drying. In Western Kansas, where the grain ripened and dried more evenly in the field, farmers had the option of using a grain header. The machine worked in the same manner, but the wheat was not shocked. Instead the grain flowed into a wagon trailing alongside.

#### **Threshing Rigs**

Steam engines appeared on the prairies in the 1880s – most used straw for fuel. They would have a driving wheel so they could pull a plow and a fly wheel for running a thresher. It required a fireman to keep the fire going, and team of tankerman to haul water for the engine. It could take hours to build up and let down steam.

Large farms owned their own machines, but many depended on custom threshing teams and rigs. A steam engine (gasoline tractors began being used by 1915 but it was not until 1941 that more than half the prairie farmers owned one) was set up in a location close to the grain field where the farmer wished to have the straw blown. The steam engine was belted up to the threshing machine, a difficult process. Bundle haulers loaded the shocks onto a horse-drawn wagon and brought them to the machine. Grain bundles were pitched into the threshing machine's bundle feeder and transported to a cylinder where most of the grain was separated. The separated grain fell to the bottom of the machine where the chaff and dust were removed by a fan. An elevator took the loose grain up to a wagon. The straw went through another cylinder, called the stacker, to make sure all the grain was removed and was blown out the back into the straw stack.

Due to the Depression and World War II, this system remained in use through the 1940s although the tractor-drawn combines were offered by 1925 by International Harvester, and the first self-propelled combine was sold in 1942. During the 1930s farmers didn't have the financial resources to buy new machinery. During the War, factories focused on producing the airplanes and tanks needed for battle, not farm machinery.



Loading silage, photograph by S. O. Orr View Artist, Manhattan, Kansas. Courtesy of the Morse Department of Special Collections, Hale Library, Kansas State University, Gift of William H. Avery



Harvest – mowing machine Courtesy of the Morse Department of Special Collections, Hale Library, Kansas State University



Custom Cutting Crew and their machines, Hoxie, Kansas, ca. 1920. Photograph by Bill Long, *Hoxie Sentinel*. Courtesy John Schlageck



**THOMAS HART BENTON** (UNITED STATES, 1889-1975) *Midwest Wheat Harvest*, 1930 **THOMAS HART BENTON** (UNITED STATES, 1889-1975) *Midwest Wheat Harvest*, 1930 Watercolor on paper 9 x 14 1/2" KSU, Beach Museum of Art, gift of Emily and Merle Hammond, 1991.16

"Section 27 is spectacular in June. Ripe wheat ripples in the Kansas wind, yellow heads nodding. The farmers, those who love the land, nod too, affirming the cosmic cycle that culminates with the harvest. Wheat is the staff of life, the bread that was broken like the earth it comes from. Growing wheat is a spiritual adventure."

Section 27: A Century on a Family Farm, Mil Penner, University Press of Kansas, 2002, p. 136.

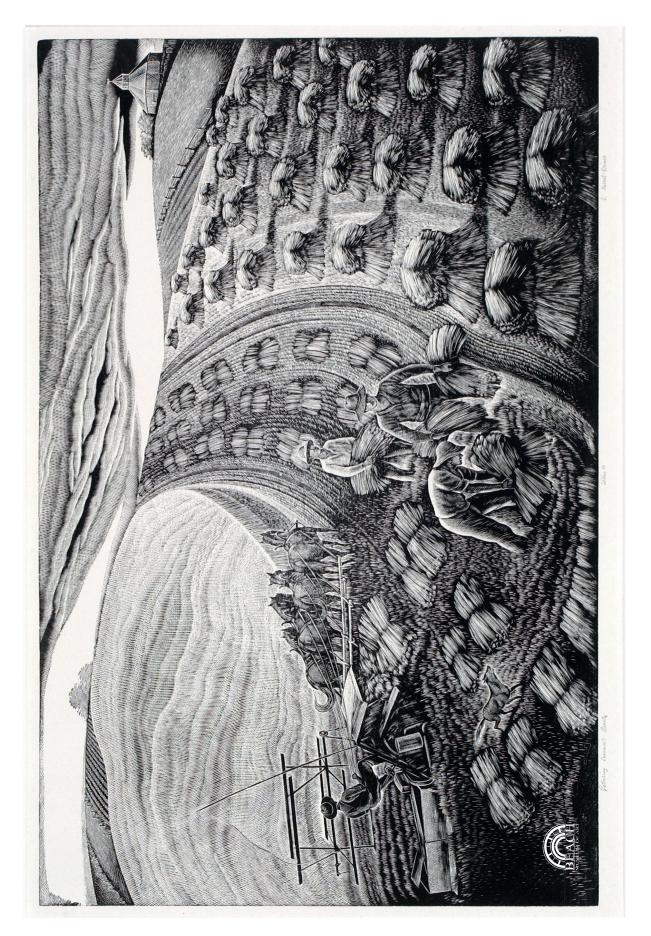


JOHN STEUART CURRY (UNITED STATES, 1897-1946) Harvest, ca. 1939

JOHN STEUART CURRY (UNITED STATES, 1897-1946) Harvest, ca. 1939 Lithographic crayon and ink with white heightening on paper 9 1/4 x 5 3/4" KSU, Beach Museum of Art, bequest of Kathleen G. Curry, KC1800

"...And farmer boys a shocking wheat in long and crooked rows, And dust-veiled men on mountain stacks, whose pitchforks flash and gleam; And threshing engines shrieking songs in syllables of steam,..."

From "The Promise of Bread," by C. L. Edson in *Sunflowers A Book of Kansas Poems*, selected by Willard Wattles, Chicago: A.C. McClurg, 1916, pp. 53-54.



**E. HUBERT DEINES** (UNITED STATES, 1894-1967) *Gathering Summer's Bounty*, 1940

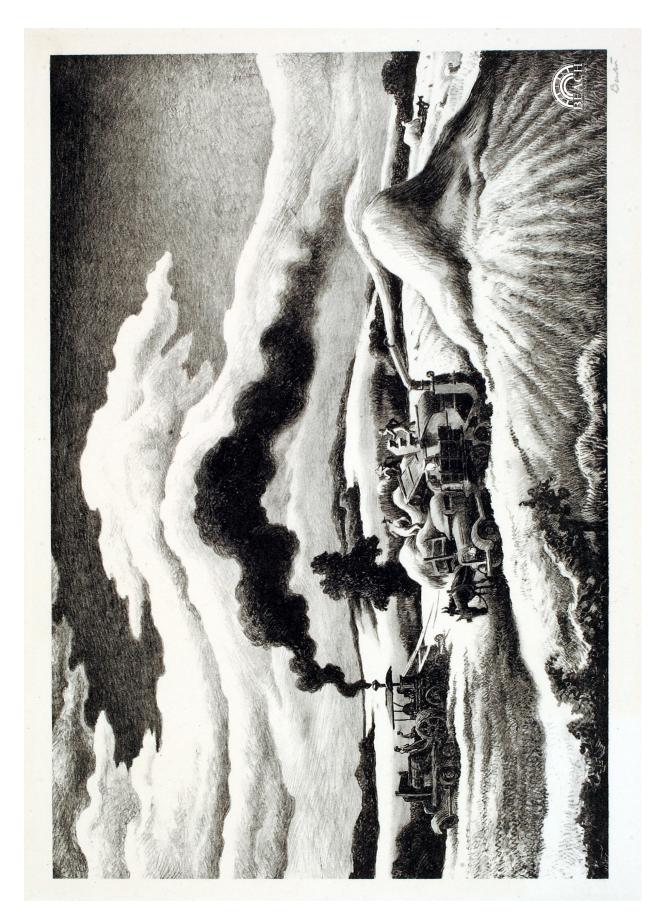


E. HUBERT DEINES (UNITED STATES, 1894-1967)
Gathering Summer's Bounty, 1940
Wood engraving on paper
7 3/4 x 12"
KSU, Beach Museum of Art, gift of the family of E. Hubert Deines, 1969.34

Deines was born in Russell, Kansas, attended the Kansas City Art Institute, and studied in Paris after military service in World War I. He then returned to the U.S. and took a position as staff artist for the *Kansas City Star* newspaper for twelve years. Deines was also a member of the Prairie Print Makers, the Kansas-based society that attracted many of the region's finest printmakers. This print is based on a sketch the artist made near the northeastern boundary of Kansas.

"By the late Thirties, balers were beginning to be seen. At first they were so bulky they were stationary, and anything to be baled was brought in to the baler. But gradually they were made more compact and could be towed through the fields attached to a tractor. Early balers require as many as five men to operate them—a baler is a complicated machine which will pick up hay from the field, compress it into a box shape, then twist wire or tie twine around the bale."

*Farm Town: A Memoir of the 1930s*, photographs by J. Wes McManigal, text by Grant Heilman, Brattleboro, VT: Stephen Green Press, 1974, p 19.

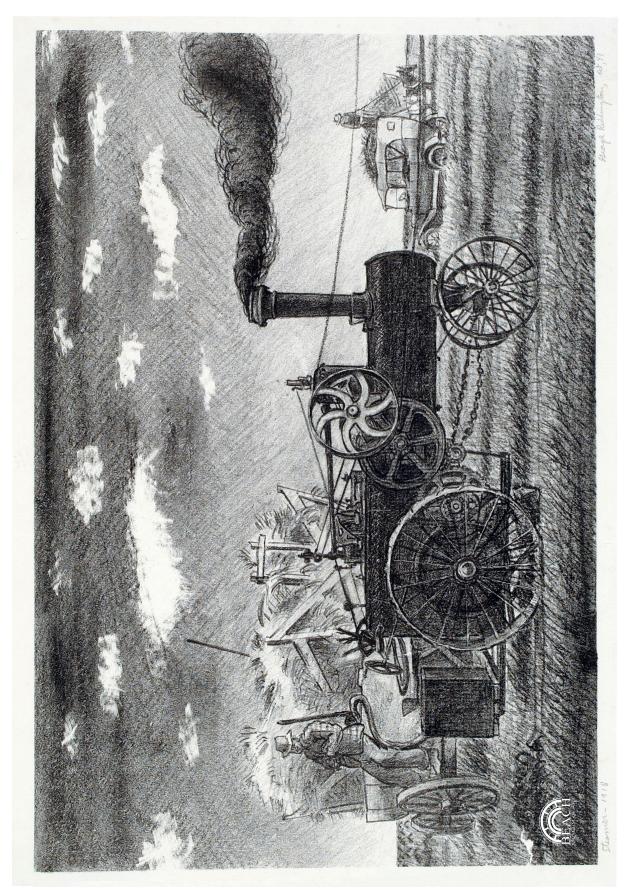


**Thomas Hart Benton** (United States, 1889-1975) *Threshing*, 1941 **THOMAS HART BENTON** (UNITED STATES, 1889-1975) *Threshing*, 1941 Lithograph on paper 9 1/4 x 14" KSU, Beach Museum of Art, gift of Robert F. and Dorothy R. Adams, 1993.19

The studies for this lithograph were drawn in 1938 in Johnson County, Kansas, about twenty-five miles from Benton's home. According to the artist, this was the last steam thresher operated in the county.

"Harvesting that crop was a thrill to me. The roar of the laboring motors and the whine of the combine were music to my ears. Day after day, from early morn until dark, toil was incessant, for time meant money."

*Farming the Dust Bowl: A First-Hand Account from Kansas*, by Lawrence Svobida, University Press of Kansas, p. 50.





GEORGE REDDINGTON (UNITED STATES, 1905-1987) Steamer 1918, 1941 GEORGE REDDINGTON (UNITED STATES, 1905-1987) Steamer 1918, 1941 Lithograph on paper 8 3/4" x 12 7/8" KSU, Beach Museum of Art, G. E. Johnson Art Acquisition Fund, 2004.88

Reddington was born in Blue Rapids, Kansas, and studied at the University of Kansas. His work often featured scenes of farm life.

"The machines themselves were not so monstrous, but the power source which operated them were the stuff from which myths arise: coal-fired, they belched black smoke, hissed steam, thumped and roared as the grain was separated and the chaff and straw were blown onto large piles – the delight of farm kids as a playground."

*Farm Town: A Memoir of the 1930s*, photographs by J. Wes McManigal, text by Grant Heilman, Brattleboro, VT: Stephen Green Press, 1974, p. 23.



HERSCHEL C. LOGAN (UNITED STATES, 1901-1987) Threshing, 1938



HERSCHEL C. LOGAN (UNITED STATES, 1901-1987) Threshing, 1938 Woodcut on paper 7 1/16 x 9" KSU, Beach Museum of Art, gift of Peggy L. Sondergard & Samuel H. Logan, 2002.122

This image was adapted from a photograph taken by Logan's friend, J. Wes McManigal, and appeared on the cover of the book *Farm Town: A Memoir of the 1930s* (shown below). This scene resembles a view of Logan's uncle's farm. Logan modified the composition of McManigal's photograph by adding a windmill to the landscape.

Logan wrote this about the image: "What thoughts such a scene conjures up...the excitement of threshing days on the farm. ...one can almost hear the throbbing of the old steam traction engine and smell the smoke."

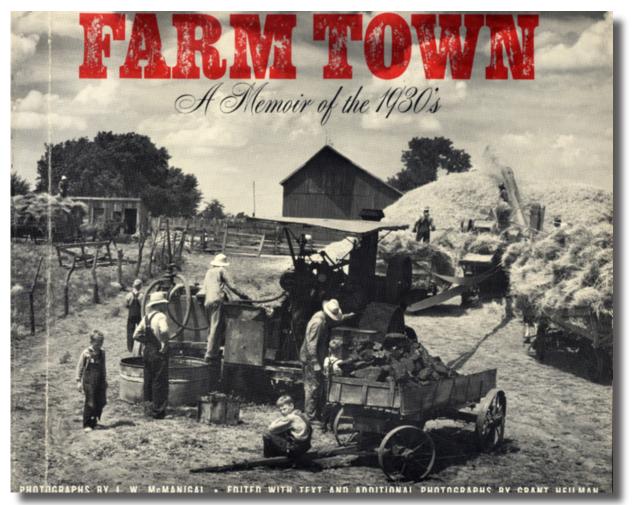


Photo Courtesy John Schlageck



**BRUCE HANDISIDE MITCHELL** (UNITED STATES, BORN IN SCOTLAND, 1908-1963) *Threshing Time*, ca. 1950 BRUCE HANDISIDE MITCHELL (UNITED STATES, BORN IN SCOTLAND, 1908-1963)
Threshing Time, ca. 1950
Watercolor and black crayon on paper
18 1/4 x 16 1/4"
KSU, Beach Museum of Art, gift of Mr. & Mrs. James Lee Moffett, 1997.141

Mitchell was a student of Thomas Hart Benton.

"The wheat crop in the summer of 1948 was a ravishing beauty, coming off a winter of exceptionally good moisture. The stand was so heavy it seemed almost fluid, a great golden ocean stirred by the ubiquitous western Kansas wind into undulating waves as it reach to the horizon in every direction. To a farmer, it was a work of art, as lovely as a favored child."

*Home on the Range: A Century on the High Plains*, by James R. Dickenson, University Press of Kansas, 1995, p. 15.



JOHN ROGERS COX (UNITED STATES, 1915-1990) Wheat Shocks, 1951

JOHN ROGERS COX (UNITED STATES, 1915-1990) Wheat Shocks, 1951 Lithograph on paper 9 5/8 x 12 1/4" KSU, Beach Museum of Art, bequest of Raymond & Melba Budge, 1992.122

Cox was well-known for his depictions of bountiful harvests. Although he worked from his imagination, the artist was inspired by his Midwestern surroundings. Cox wrote of his own work: "My ideas are usually of some familiar thing or of people I have known and liked for a long time, placed in an atmosphere that is conjured up from imagination." Cox served as the first director of the Sheldon Swope Art Museum in Terra Haute, Indiana, his native city. He later taught at the Art Institute of Chicago for twenty years.

"Shocking wheat, like other harvest chores, was something of an art. You would grab two bundles near the string and set them up, heads up, against each other, repeating the process until you had made a proper shock. It was important to set the bundles down sharply into the stubble and to form straight rows so that the bundle racks (wagons) could work efficiently."

Section 27: A Century on a Family Farm, Mil Penner, University Press of Kansas, 2002, p. 140.



**BERNARD STEFFEN** (UNITED STATES, 1907-1980) *Haying*, 1946 BERNARD STEFFEN (UNITED STATES, 1907-1980)
Haying, 1946
Screen print on paper
10 1/8 x 8 1/8"
KSU, Beach Museum of Art, John F. Helm, Jr. Memorial Fund, additional funding provided by Lawrence & Mary Helm Pollack, 1998.114

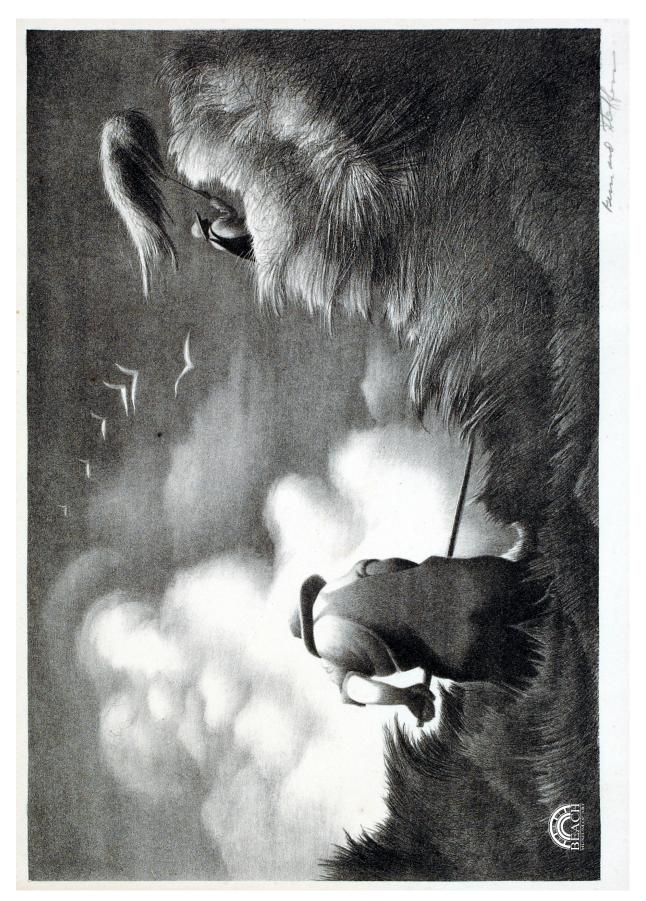
A Farmer's Son.

The west wind blows through ripened wheat Swishing, swishing, swishing. I pad down the road with bare, brown feet Wishing, wishing, wishing That the golden heads were a vast gold fleet Sailing, sailing, sailing To the place where the earth and the sky-line meet Paling, paling, paling.

'Tis harvest time and the white hot sun Boiling, boiling, boiling Scorches the faces of men sweat-run Toiling, toiling, toiling. In my jug is cool drink; for their work must be done Teeming, teeming, teeming, There's no time to be spent by a farmer's son Dreaming, dreaming, dreaming.

-Isobel Doerr

*Contemporary Kansas Poems*, Helen Rhoda Hoopes, Kansas City: Joseph D. Havens Company, 1927, p. 49.



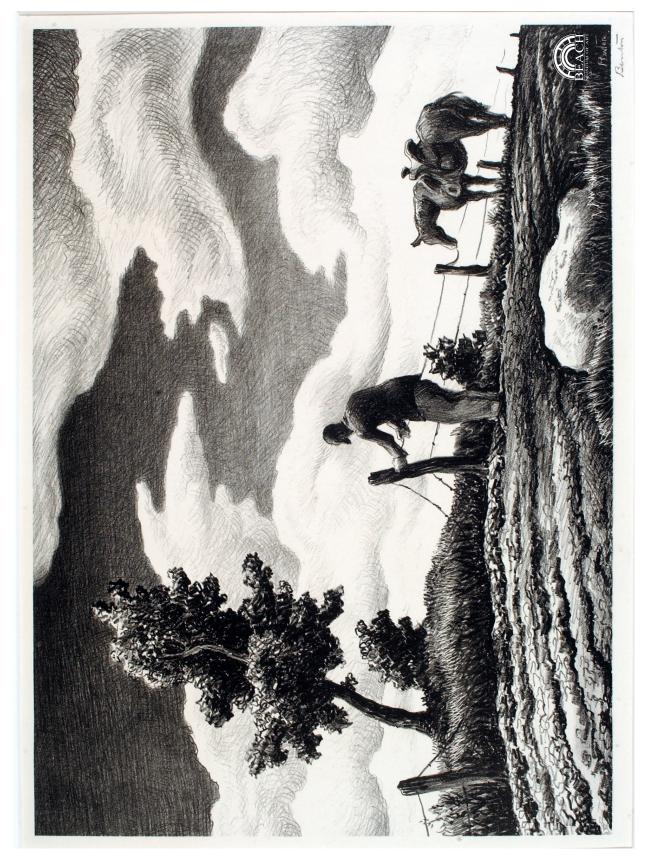
BERNARD STEFFEN (UNITED STATES, 1907-1980) Haying, 1937 **BERNARD STEFFEN** (UNITED STATES, 1907-1980) Haying, 1937 Lithograph on paper 8 5/8 x 12 7/8" KSU, Beach Museum of Art, John F. Helm, Jr. Memorial Fund, additional funding provided by Lawrence & Mary Helm Pollack, 1998.41

This work was done while Steffen was living in New York City, where he studied with Thomas Hart Benton at the Art Students League. Like many artists, Steffen continued to draw on his agricultural roots even while far removed from the physical environment. Haying emphasizes the agricultural bounty of the rural landscape.

"In an era when the work of farming was done more by men than by machines, the threshed straw stack was a family-farm icon. A new bright yellow straw stack might be twenty feet high. Loose and airy, it looked fragile, but if properly formed, it could withstand wind and rain."

Section 27: A Century on a Family Farm, Mil Penner, University Press of Kansas, 2002, p. 141.





**THOMAS HART BENTON** (UNITED STATES, 1889-1975) The Fence Mender, 1940 **THOMAS HART BENTON** (UNITED STATES, 1889-1975) *The Fence Mender*, 1940 Lithograph on paper 10 x 14" KSU, Beach Museum of Art, gift of Robert F. and Dorothy R. Adams, 1993.18

This scene is from a 1939 horse buying trip in central Nebraska. The lithograph was a study for a small painting. According to Benton it is a, "Common scene where there are barbed wire fences."

Barbed wire was introduced in the 1863. At least five variations of barbed wire were patented by Kansas in the late 19<sup>th</sup> century. LaCrosse, Kansas, is considered the barbed wire capitol of the world and is the headquarters of the Kansas Barbed Wire Collectors Association, founded in 1966, and the Kansas Barbed Wire Museum.

## **Barbed Wire Patented in Kansas**

Harbaugh's Torn Ribbon, 1881 Hyde's Spur Fence, 1883 Beerbower's Two Point, 1885 Raile's Fence Signal, 1887 Schyler's Fence Signal, 1889

"Every spring during the forties we had fences that blew down. A lot of fences were short of posts, and the thistles would blow the wire off the posts and tangle it up across the pasture."

*Voice of the Plains*, John Cogswell, "Good Neighbors Make Good Fences," CA: Greenridge Press, 1987, p. 83.



**THOMAS HART BENTON** (UNITED STATES, 1889-1975) *Loading Corn*, 1945 **THOMAS HART BENTON** (UNITED STATES, 1889-1975) Loading Corn, 1945 Lithograph on paper 10 1/4 x 13 1/4" KSU, Beach Museum of Art, bequest of Raymond & Melba Budge, 1992.60a

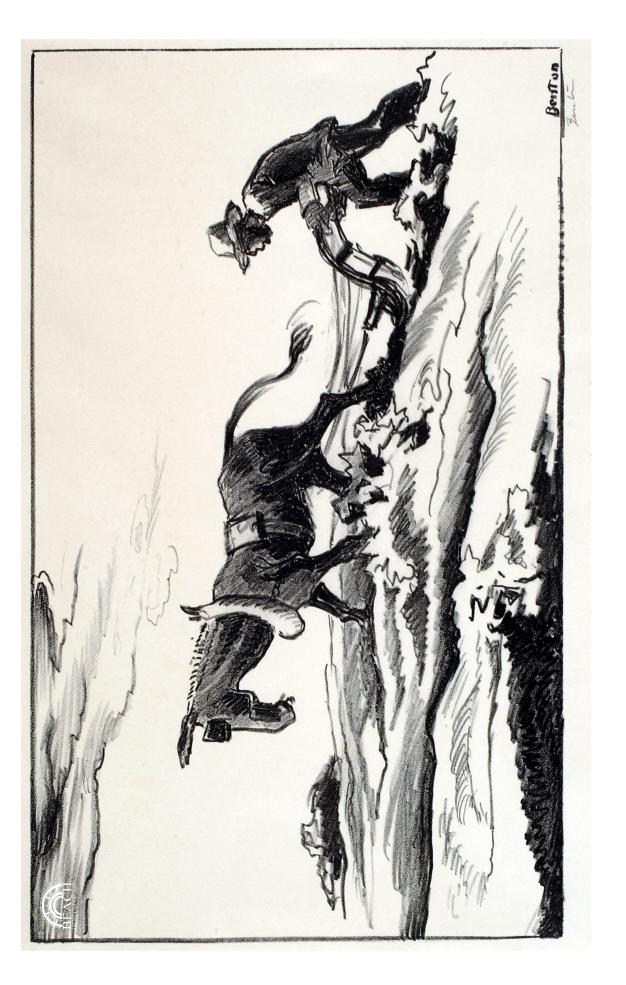
Describing this scene, Benton wrote: "Autumn in Missouri. To be seen on most hill farms. The problem with these subjects is not to find them but to find them in a pictorially workable setting."

Corn was picked by hand, the wagon loaded, and a horse drew it to the corn crib. After the corn had dried it was shelled by a hand turned machine. Mechanical corn pickers were not very effective until the 1920s. A tractor mounted picker was developed in 1939 and the corn combine in the 1950s.

Corn was displaced as Kansas' major crop starting in 1874 when the crop was devoured by swarms of grasshoppers followed by a series of summer droughts. The Volga Germans and Mennonites who settled in Kansas toward the end of the century were more familiar with wheat crops.

"This is to be a corn year in Kansas, and all the remembrances of the past successes and the hopes of future victories will be realized. The Kansas farmer, whose pluck has conquered a desert and made it blossom as a rose, will feel the galling harness touch him less harshly after this year."

"A Kingdom Coming" by William Allen White, June 29, 1895, *The Emporia Gazette*, from *The Editor and His People*, ed. Helen O Mahin, MacMillan Company, 1924.



**THOMAS HART BENTON** (UNITED STATES, 1889-1975) *Ploughing (a.k.a. Plowing It Under)*, 1934



**THOMAS HART BENTON** (UNITED STATES, 1889-1975) *Ploughing (a.k.a. Plowing It Under)*, 1934 Lithograph on paper 9 x 14" KSU, Beach Museum of Art, bequest of Raymond & Melba Budge, 1992.101

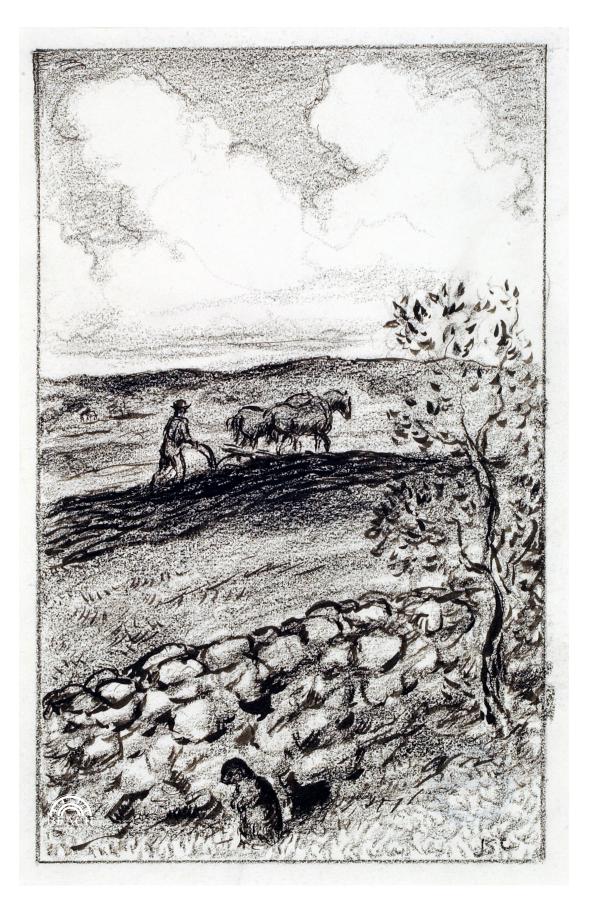
This was the first of Benton's lithographs circulated by Associated American Artists (AAA).

In 1933 the Agricultural Adjustment Administration, a New Deal program, arranged for 10.4 million acres of cotton to be plowed under, thus rendering the land inactive. Benton's title, *Plowing it Under*, is a reference to this action.



Clarence Crotts (right) Reno County farmer, is shown here teaching Chester Regier, (left) 15-years-old, of Hutchinson, how to run a walking plow. Chester and Galen intend to remain on the Crotts farm all summer where they are trying their best to take the place of the two Crotts boys who are now serving in the armed forces. Chester got his training at a special school for Victory Farm Volunteers.

Clarence Crotts, Reno County, teaching Chester Regier, age 15, to run a walking plow 1943. Chester was a member of the Victory Farm Volunteers. This photograph is evidence of the use of older machines during the War. Photo by Harold Shankland. Photo courtesy the Morse Department of Special Collection, Hale Library, Kansas State University.

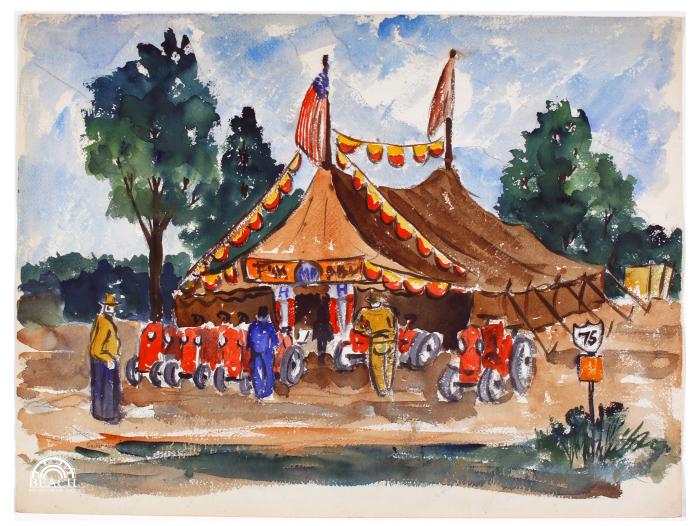


**JOHN STEUART CURRY** (UNITED STATES, 1897-1946) *Farming (Plowing)*, ca. 1939

JOHN STEUART CURRY (UNITED STATES, 1897-1946) Farming (Plowing), ca. 1939 Lithographic crayon and ink on paper 9 1/2 x 6" KSU, Beach Museum of Art, bequest of Kathleen G. Curry, KC1798

Sod busting was prevalent in Kansas from WWI on, when wheat was king. Between 1909 and 1929, 32 million acres of new wheat land was broken. Sod busting removed the natural vegetation that held the topsoil in place. Due to drought the crops did not always grow well enough to anchor the soil.

Farmers favored the newly available one-way disc plow that was developed in 1926 by Charles Angell of Plains, Kansas, because its vertical discs plowed faster, handled stubble well, broke hard sun-baked soil and destroyed weeds. He built close to 500 of these plows on his Meade County farm before selling the rights to the Ohio Cultivator Company.



**CHARLES L. MARSHALL, SR.** (UNITED STATES, 1905-1992) *Tractor Show at Fair Grounds, 1948* 

CHARLES L. MARSHALL, SR. (UNITED STATES, 1905-1992)
Tractor Show at Fair Grounds, 1948
Watercolor with graphite on paper
482 mm x 635 mm
KSU, Beach Museum of Art, gift of Charles L. Marshall, Sr., presented by Maybelle M. Sheetz, 2005.99

The County Fairs were a time to promote successful farming and present new ideas to farmers. Changes in machine technology would have been evident each year.

"Power farming machinery is used: powerful tractors with big ten-foot plows and multiple hitched drills get over the ground quickly. It requires five thousand dollars for the necessary equipment to raise and harvest a crop. A quarter of land consists of 160 acres and the average farmer handles from four to six quarters, though there are a few men farming up to as high as six thousand acres." [1929]

*Farming the Dust Bowl: A First-Hand Account from Kansas*, by Lawrence Svobida, University Press of Kansas, 1986 (original edition 1940), pp.44 & 45.



**THOMAS HART BENTON** (UNITED STATES, 1889-1975) Sorghum Mill, 1969

**THOMAS HART BENTON** (UNITED STATES, 1889-1975) Sorghum Mill, 1969 Lithograph on paper 8 5/8 x 12 13/16" KSU, Beach Museum of Art, gift of the Office of the President, the Friends of Art, and Bud & Marti Newell, 1996.17

In 1969, Benton found this mill still using mules for power in Newton County, Arkansas. He wrote: "These mule powered mills used to be common all over the Ozarks. Now gas engines have largely replaced the mules."

According to a report from the American Journal of Pharmacy in 1884, experimentation with sorghum as a source of sugar began in the United States in the mid-1800s. The Arkansas River Valley was chosen as a place where cane could be grown successfully and cheaply. In 1882, a mill was built in Hutchinson, Kansas, which processed 40 barrels of sugar and 200 gallons of syrup in a day, the first large scale undertaking of the kind.

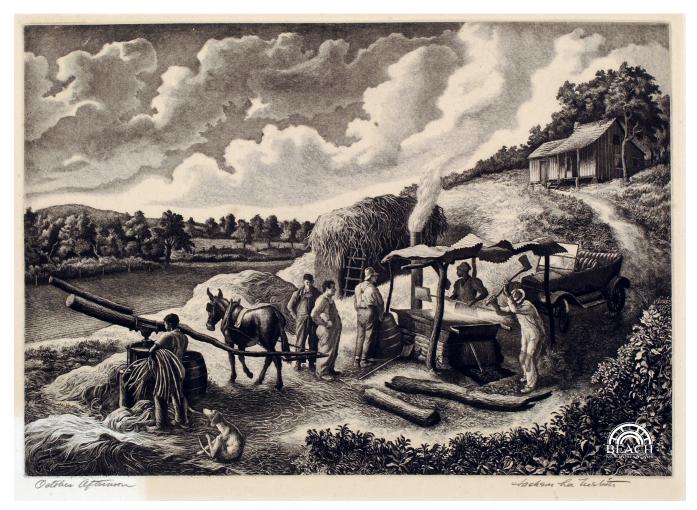


HERSCHEL C. LOGAN (UNITED STATES, 1901-1987) Sorghum Mill, 1938

HERSCHEL C. LOGAN (UNITED STATES, 1901-1987) Sorghum Mill, 1938 Woodcut on paper 5 x 7" KSU, Beach Museum of Art, acquisition made possible with funds provided by the Friends of the Beach Museum of Art, 2000.68

Cane sorghum was ground in a mill with two large metal rollers, one directly above the other. Each roller would operate in the opposite direction of the other, so that they would "suck" the stalks in. A pole was attached to the mill and was suspended about four feet above the ground. A horse was hitched to the pole and it walked around and around the mill. The place the man sat feeding stalks into the mill was sunken into the ground so that the pole would not strike his head. Green juice ran out.

The syrup was taken to the sorghum house to be boiled. It had a large metal boiling pan about 20 feet long and four feet wide and rested on a cemented stone foundation about two and a half feet wide. At one end a fire was built under the pan and there was a chimney. The boiling pan was divided into compartments with sliding doors. The sap would flow from the far end towards the fire, heating into syrup on the way. This was usually tended by a woman.



Jackson Lee Nesbitt (United States, Born 1913) October Afternoon, 1946 JACKSON LEE NESBITT (UNITED STATES, BORN 1913) October Afternoon, 1946 Etching on paper 10 1/4 x 14 1/8" KSU, Beach Museum of Art, bequest of Raymond & Melba Budge, 1992.75

Born in McAlester, Oklahoma, Nesbitt was a student of Thomas Hart Benton and John deMartelly at the Kansas City Art Institute. Nesbitt produced five rural pieces for Associated American Artists between 1939 and 1946. After a long hiatus (1957-1989), Nesbitt has again begun producing works about rural America in the same style and subject matter as he used in the 1930s and 1940s.



**COY AVON SEWARD** (UNITED STATES, 1884-1939) *Alfalfa Meadows*, 1925

Coy Avon SEWARD (UNITED STATES, 1884-1939) Alfalfa Meadows, 1925 Lithograph on paper 12 x 16" KSU, Beach Museum of Art, gift of Aaron Dean Bohrer (BS '94) & Brice Matthew Bohrer (BFA '97), 1997.164

Born in Chase, Kansas, Seward grew up on a farm. He studied art in Topeka with Albert T. Reid and George M. Stone and was a student and friend of Birger Sandzén. A charter member of the Prairie Print Makers, Seward was also the art director of Western Lithograph, a commercial printing firm in Wichita, Kansas.

"More than anything, I liked to mow alfalfa. Pop had rigged up a seven-foot power-takeoff mower for our Case Tractor, so mowing, raking and baling alfalfa were among my summer tasks. The scent of newly mown hay is just as it's described in bad poetry; there's no getting around it. It is simply wonderful to be in the midst of acres and acres of luscious green, with yellow and white sulfur butterflies floating above purple flowers and honeybees buzzing on a perfect day in June. The heady aroma gradually changes from pungent succulence as the cutter bar slices the green stems to the softer fragrance of curing hay."

Section 27: A Century on a Family Farm, Mil Penner, University Press of Kansas, 2002, pp. 72-73.